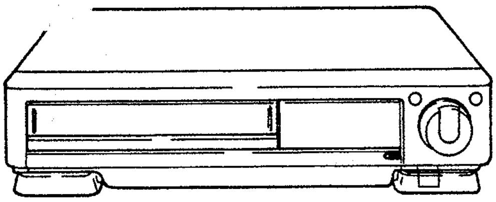
HITACHI

TK | No.4330E

VT-F260E(NA)

SERVICE MANUAL
Wartungsanleitung

V14928



VHS

This video desk is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

VHS

Dieser Video-Recorder entspricht dem VHS-Format. Für richtigen Betrieb müssen daher VHS-Magnetband-Cassetten verwendet werden.

SHOWVIEW

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

Änderungen der Technischen Daten und Teile im Sinne ständiger Verbesserung vorbehalten.

VIDEO CASSETTE RECORDER
Video-Cassettenrecorder

July 1993 TOKAI Consumer Electronics Division

SAFETY PRECAUTIONS

The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'. Critical parts are marked with ⚠ in the schematic diagram.
2. Before returning a repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without any danger of electrical shock.

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CHAPTER 1

SPECIFICATIONS

Format:	VHS PAL Standard
Recording:	Rotary Two-Head Helical Scan Azimuth Recording
Head:	4 video heads: 2 for SP, 2 for LP
Tape Speed:	23.39 mm/sec. (SP) 11.7 mm/sec. (LP)
Tape Width:	12.7 mm
Operation Temperature:	5°C to 40°C
Video:	PAL colour (system B & G) & CCIR monochrome signals 625 lines
Recording Time:	240 min. with E-240 cassette — SP 480 min. with E-240 cassette — LP
Aerial Input:	VHF channels 2 — 12 CATV channels S1 — S41 UHF channels 21 — 69
RF Output:	UHF channel 37 (32 — 42 adjustable) (System G)
Video Input:	0.5 to 1.5Vp-p 75 ohm Unbalanced
Video Output:	1Vp-p 75 ohm Unbalanced
S/N Ratio (Video):	More than 43 dB
Horizontal Resolution:	Colour 260 lines
Audio (Linear)	
Input:	PERI: −3.8 dBm 50 Kohm, LINE: −7.8 dBm 50 Kohm
Output:	PERI: −3.8 dBm 1 Kohm
S/N Ratio:	43 dB
Frequency Range:	70 Hz to 12 kHz
Hi-Fi Audio	
Frequency Range:	20 Hz to 20 kHz
Dynamic Range:	More than 90 dB
Wow and Flutter:	Less than 0.005% WRMS
Power:	AC 230V 50 Hz
Power Consumption:	22W (including timer)
Timer:	24-hour digital indication
Cabinet Size:	380 mm(W) x 82 mm(H) x 338 mm(D)
Weight:	Approx. 4.7 kg
Accessories Included:	1 — Aerial cable 1 — Infrared remote control unit 2 — Batteries

* Design and specifications are subject to change without notice.

COMPARISON OF FEATURE

ITEM		VT-F180E	VT-F260E
GENERAL	VIDEO HEADS	DA4 Heads + Hi-Fi +FE SP:48μm LP:24μm Hi-Fi:28μm	DA4 Heads+Hi-Fi SP:48μm LP:24μm Hi-Fi:28μm
	BASIC CHASSIS TYPE	ACE	ACE
	CAPSTAN DRIVE	DIRECT DRIVE	DIRECT DRIVE
	CYLINDER MOTOR	THREE-PHASE OUTER ROTOR:360Hz	THREE-PHASE OUTER ROTOR:360Hz
VIDEO	PAL COLOUR	B/G	B/G
	MESECAM COLOUR	YES	YES
TUNER	TUNING SYSTEM	F.S TUNING	F.S TUNING
	A2/NICAM	YES	YES
	CHANNEL PRESET No.	69CH	49CH
	RF CONVERTER	G	G
	RF CONV. CHANNEL (32-42)	37	37
TIMER	REC. PROGRAM	8 PROG./1 YEAR	8 PROG./1 YEAR
	DIMMER	NO	NO
	IRT	START/LENGTH	LENGTH ONLY
	BACK-UP TIME	ABOUT 30 MIN.	ABOUT 30 MIN.
	VPS	NO	NO
OTHER FEATURE	PROGRAMME EDIT	YES (6 PROGRAMMES)	NO
	REC VOLUME	YES	NO
	HEAD PHONE JACK	YES	NO
	AUTO HEAD CLEANING	YES	YES
	MANUAL HEAD CLEANING	YES	YES
	SYNCHRO IN/OUT JACK	YES	NO
	TAPE SPEED	SP/LP	SP/LP
	VIDEO DUB	YES	NO
	AUDIO DUB	YES	NO
	X2 PLAY	YES (SHUTTLE)	YES (SHUTTLE)
	SLOW/REV.SLOW PLAY	YES (SHUTTLE)	YES (SHUTTLE)
	F.ADV/REV.F.ADV PLAY	YES (SHUTTLE)	YES (SHUTTLE)
	LP SPECIAL EFECT	YES	YES
	JOG/SHUTTLE RING	YES	YES (SHUTTLE)
	AI PICTURE	YES	YES
	FRONT A/V INPUT JACK	YES	YES
	EDIT IN JACK	NO	YES (FRONT)
	COUNTER GO-TO/INDEX	YES	YES
AUTO FEATURE	AUTO TRACKING	YES	YES
	AUTO OPERATE ON	YES	YES
	AUTO PLAY	YES	YES
	AUTO EJECT	YES	YES
	AUTO REWIND	YES	YES
	AUTO REW.SHUT OFF	YES	YES
	AUTO TAPE CANCELLER	YES	YES
REMOTE CONTROL	PROGRAMME SETTING	LCD	LCD
	CLOCK SETTING	LCD	LCD
	VTR1/VTR2/TV	YES	YES
	PROGRAM MEMORY	YES	NO
	JOG/SHUTTLE RING	YES	YES (SHUTTLE)
	SHOW VIEW	NO	YES

COMPARISON OF MAIN CONTROL ICs

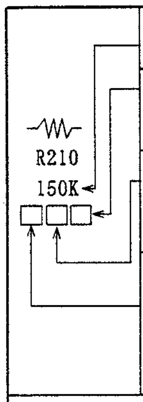
ITEM	VT-F180E	VT-F260E
VIDEO SYSTEM		
Y/CHROMA PROCESS	HT7248A (IC201)	HT7405A (IC201)
CCD DELAY	MSM7403RS (IC202)	—
SECAM DETECT	XRA7025L (IC351)	XRA7025L (IC2301)
AUTO PICTURE REG. (AI)	NJM2502L (IC1251)	NJM2502L (IC3201)
VIDEO AGC	M51489L (IC204)	—
FM EQ	—	M52364 (IC203)
PRE/REC AMP		
VIDEO HEAD AMP	HA118162NT (IC1)	HA118162NT (IC1)
AUDIO HEAD AMP	XRA7740S (IC2)	BA7740S (IC2)
FM DET	BA7047S (IC3)	BA7047S (IC3)
ON SCREEN DISPLAY		
CHARACTER GENERATOR	M35010-013SP (IC1401)	LC74760M (IC1401)
AFC/SYNC-SEPA	BA7046A (IC1402)	—
AUDIO		
FM AUDIO PROCESS	AN3961FBP (IC501)	AN3963NFBPAA (IC501)
BASS BOOST		
BASS BOOST CONTROL	RC4558 (IC1531,IC1532)	—
SERVO		
SERVO CONTROL	HD49781NT (IC601)	HD49781F (IC601)
CYLINDER MOTOR DRIVE	XRA6459P1 (IC1651)	—
SYSTEM CONTROL		
SYSTEM CONTROL µP	M75517-144/162 (IC901)	µPD78056-011 (IC901)
TAPE LOADING DRIVE	XRA6209U4 (IC902)	XRA6209U4 (IC903)
DOOR LOADING DRIVE	XRA6209U4 (IC1901)	—
TIMER		
TIMER µP	M38103M6-102 (IC701)	—
DISPLAY DRIVE	—	µPD16312 (IC701)
EA-ROM	XRM9021B (IC702)	X24C02 (IC902)
JACK		
VIDEO IN/OUT SW	BA7630S (IC4501)	BA7630S (IC4551)
AV/MPX SELECT	BU4551BF (IC4503)	BA3129F (IC5501)
LINE/DECODER SELECT	BA3129F (IC4504)	BA3129F (IC5502)
I/O EXPANDER	—	BU2042 (IC905)
A2		
FM DEMOD.	TDA9821 (IC1852)	TDA9821 (IC1852)
DUAL SOUND DEMOD.	TDA8417 (IC1851)	TDA8417 (IC1851)
NICAM/A2 SELECTOR	BA3129F (IC1871)	—
NICAM		
ACTIVE LPF	AFS816F (IC1806)	AFS816F (IC1806)
NICAM DECODE	CF70091 (IC1801)	CF70091 (IC1801)
D/A CONV.	TDA1543 (IC1802)	TDA1543 (IC1802)
INTEGRATOR	BA4560 (IC1805)	BA4560 (IC1803

WHEN USING THIS SERVICE REFERENCE MATERIAL

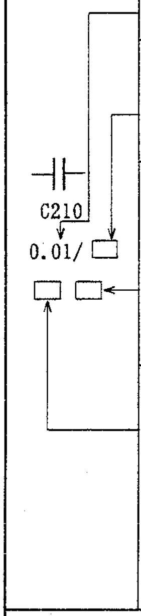
1. How to Read Abbreviations

Values, dielectric resistances (power capacitances), tolerances, grades of resistors (excluding variable resistors, etc.) and capacitors are indicated in the schematic diagrams using abbreviations. Collate these abbreviations and the following tables to read abbreviations and replace parts correctly.

[RESISTORS]

	Value	No indication ················ ohm K ···························· kohm
	Tolerance	No indication ··············· ± 5% K ··························· ±10% M ··························· ±20%
	Power capacitance	No indication ·············· 1/8W (All capacitances other than 1/8W are indicated in schematic diagrams with W omitted.)
	Type	No indication ·· Carbon film fixed RC ·················· Carbon solid RW ·········· Power-type wire wound solid RS ······· Metal oxide film solid RN ·············· Metal film solid
Example R210 150K ········ 150 kohm, carbon solid RC.1/2.K 1/2W, ±10%		

[CAPACITORS]

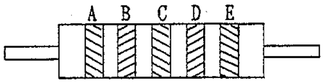
	Value	No indication ················ μF P ···························· PF
	Dielectric resistance	No indication ··············· 50WV (All resistances other than 50WV and those of electrolytic capacitors are indicated with WV omitted.)
	Tolerances	No indication ··············· ±10% J ··························· ± 5% M ··························· ±20% C ························ ±0.25PF Z ······················ +80%-20% (No indication for electrolytic capacitors. (excluding tantalum and high stability clectrolytic capacitors.)
	Type	No indication ··· Ceramic, general electrolytic (see circuit symbol to distinguish from ceramic.) MYL ························ Mylar (Polyester film) STY ······················· Styrol TA ······················· Tantalum KU ················ High stability electrolytic MP ·············· Metallized paper
Example C210 0.01/25 ······ Mylar, 0.01μF, 25WV MYL.J ±5%		

2. Markings in Schematic and Circuit Board Diagrams

(1) Parts with marks "■" attached to circuit numbers in the schematic and circuit board diagrams are discrete components.
(2) Parts with marks "●" attached to circuit numbers in the schematic and circuit board diagrams are chip components.
(3) Parts with marks Ⓩ in the circuit board diagrams are leadless jumpers.

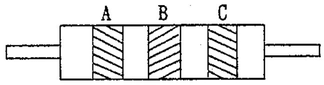
3. How to Read Capacitance of Resistance-Type Capacitors and Coils

[CAPACITOR]



CAPACITY : (10A+B)×C (PF)
TOLERANCE : D
RATED VOLTAGE : BODY COLOR
PINK : 25V
GREEN : 50V
CHARACTERISTICS : E

[COIL]



INDUCTANCE : (10A+B)×C (μH)

COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Gray	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

4. Cautions on Use of MOS ICs

(1) MOS ICs are inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
(2) High voltages may be applied during soldering caused by leakages from the soldering iron. Be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
(3) The human body and clothes made of synthetic fiber or nylon gloves may be charged with several thousand volts of static electricity because of friction. Workers should be grounded.

SERVICE MANUAL ABBREVIATION LIST

A	
ACC	Automatic Color Control
ACK	Automatic Color Killer
ADC B-Y	Analog to Digital Converted B-Y Signal
ADC R-Y	Analog to Digital Converted R-Y Signal
ADC Y	Analog to Digital Converted Luminance
ADD	Adder
ADRS	Address
A.DUB	Audio Dubbing
AF	Autofocus
AFC	Automatic Frequency Control
AGC	Automatic Gain Control
AGC KILLER	AGC Killer Voltage
ALC	Automatic Level Control
AIC	Automatic Iris Control
AM	Amplitude Modulation
AMP	Amplifier
APC	Automatic Phase Control
ASBL	Assemble (Phase Matching)
AUD.	Audio
AUX	Auxiliary
A5V	Always 5V B+ Source

B	
B (BLU)	Color Signal BLUE
BATT.	Battery
BF	Burst Flag
BG	Burst Gate or Back Ground
BGP	Burst Gate Pulse
BH	Power Supply for Selecting VHF High Band
BL	Power Supply for Selecting VHF Low Band
BLK	Blanking
BM	Power Supply for Selecting VHF Mid Band
BPF	Bandpass Filter
BS	Power Supply for Selecting VHF Super Band
BU	Power Supply for Selecting UHF Band
BU	Back-up
BUF.	Buffer Amplifier
B-YL	Battery

C	
C	Chroma
C (CHROMA)	Chrominance Signal
CAPST.	Capstan
CAS	Column Address Strobe
CARRI.	Carrier
CATV	Cable TV
C.BLANK	Chroma Blanking
C.BLK	Composite Blanking
CCD	Charge Coupled Device
CG	Character Generator
C.FG/CFG	Capstan Frequency Generater
C.FREE RUN	Chapstan Free Run
CH	Channel
CHD	Camera Horizontal Drive Pulse
CHAR.	Character
CHROMA	Chrominance
C.MEMORY	Counter Memory
CNR	Chroma Noise Reducer
COM.	Common
COM.	Composite
COMPA	Comparator
COMPE	Compensator
COMPO	Composite
COMP-EXP	Compressor-Expander
CONV.	Converter
CONT	Control
CORR.	Correlation
COUNT.	Counter
CP	Clamp Pulse
C.PAUSE	Camera Pause
C/R	Capacitor/Resistor
C.RESET	Counter Reset
C.REVERSE	Count Reverse
CST	Cassette

C	
C.SYNC	Composite Synchronizing Signal
CTL	Control Track Pulse (Control)
CYL	Cylinder
CY (CYAN)	Color Signal CYAN

D	
DA	Double Azimuth
D/A	Digital to Analog Converter
D-D	Direct Drive
DEEMPHA.	Deemphasis
DEF	Deflection
DEMOD.	Demodulator
DEMPX	Demultiplexer
DET	Detector
DIFF. AMP	Differential Amplifier
DISCRI.	Discriminator
DISP.	Display
DL	Delay Line
DN	Down
DO	Dropout
DOC	Dropout Compensator
DRAM	Dynamic Random Access Memory
D.REF 25/30	Delayed Reference 25/30Hz
D.SW 25/30	Delayed Switching 25/30Hz
DSP	Digital Signal Processor
DT/OE	Data Transfer/Output Enable
D/W	Dark/White
DWC	Delayed Write Clock

E	
EA-ROM	Electrically Alterable Read Only Memory
E-E	Electronic-to-Electronic
EMPHA.	Emphasis
EQ	Equalizer
EVF	Electronic Viewfinder
EXT.	External

F	
F.ADV	Frame Advance
F/V	Frequency-to-Voltage Converter
FB	Feed Back
FF	Flip Flop
F.FWD	Fast Forward
FG	Frequency Generator
FM	Frequency Modulation
FREQ.	Frequency
FRAME ADV	Frame Advance
Fsc	Color Sub Carrier Frequency
FWD	Forward

G	
GEN	Generator
GND	Ground

H	
H	Horizontal
HBF	Horizontal Burst Flag
HD	Horizontal Drive
Hi-Fi	High Fidelity
HLT	Halt
HPF	High-pass Filter
HPL	High-pass Limiter
HSS	Horizontal Sync. Separator

I	
IF	Intermediate Frequency
INC	Row Counter Increment
INDI.	Indicator
INT.	Internal
INV.	Inverter
I/O	In/Out (Input/Output)
IR	Infrared Rays
IRIS DET	Iris Detection
IRT	Instant Recording Timer

L	
LCD	Liquid Crystal Display
LIN.	Linear
LM	Loading Motor

L	
LNC	Line Noise Canceller
LOG	Logarithm
LP	Long Play
LP (H)	Long Play Signal (Active High)
LPF	Low-pass Filter
LUMA	Luminance
L/R	Left/Right

M	
MAN	Manual
M.BRAKE	Main Brake
M.CUT	Monitor Cut
MEM.	Memory
MEM ON	Memory ON
MEM SW	Memory Switch
MEM VIDEO	Memorized Video
MIX	Mixer
MMV	Monostable Multivibrator
MOD.	Modulator
MPX	Multiplex
MPX VIDEO	Multiplexed Video
M.STATE	Mechanism State
M.STOP	Memory Stop
MTS	Multi Channel Television Sound

N	
NEG	Negative
NFB	Negative Feed Back
NORM. or NOR.	Normal
NR	Noise Reduction

O	
OB	Optical Black
O/E	Odd/Even Field
OSC	Oscillator
OSD	On-Screen Display

P	
PB/PLAY	Playback
P.CONT	Power Control
PIF	Picture Intermediate Frequency
PG	Pulse Generator
P IN P	Picture in Picture
PIX MOVE	Picture Move
PLL	Phase Locked Loop
POS.	Positive
POWER CONT.	Power Control
PROG.	Program
PROTECT.	Protector
PWM	Pulse Width Modulation

R	
R (RED)	Color Signal RED
RAM	Random Access Memory
RAS	Row Address Strobe
RC	Reading Clock
RCC	Reading Clock Clear
RCR	Row Counter Reset
REC	Record
RECT.	Rectifier
REF	Reference
REF 25/30	Reference 25/30Hz from servo circuit
REG	Regulator
REL	Refresh Control
REW	Rewind
REV	Reverse
RF	Radio Frequency
RM	Reel Motor
ROM	Read Only Memory
R-YL	Color Difference Signal R-YL

S	
SAP	Second Audio Program
SAW	Sawtooth
SC	Serial Control
SC1 (0°)	3.58MHz Subcarrier Signal 1 (0-degree Phase Shifted)
SC2 (90°)	3.58MHz Subcarrier Signal 2 (90-degree Phase Shifted)
SEP.	Separator
SG	Signal Generator
S/H	Sample and Hold
SIF	Sound Intermediate Frequency
SOL	Solenoid
SP	Standard Play
SP/LP	Standard Play/Long Play
S.REEL	Supply Reel Sensor
SRCH	Search
SRV	Servo
STABI.	Stabilizer
S.TRACK	Slow Tracking
STBY	Standby Mode
S-VHS	Super VHS
SW 15Hz	15Hz Head Switching Pulse
SW 25/30Hz	25/30Hz Head Switching Pulse
SYNC	Synchronizing signal
SYS.CON	System Control

T	
T (TELE)	Telephoto Angle
T.BRAKE	Take-up Brake
T/L	Tuner/Line
TP	Test Point
T.REEL	Take-up Reel Sensor
T.RESET	Timer Reset
TRS	Transfer
TμP	Timer Microprocessor
TU-μP	Tuning Microprocessor

U	
U/D	Up/Down
UNI.	Unified

V	
V (VERT)	Vertical
VAR	Variable
V.AGC	AGC Voltage
VCA	Voltage Controlled Amplitier
VCO	Voltage Controlled Oscillator
V.DRV	Vertical Drive Pulse
V.DUB	Video Dubbing
V/F	Voltage to Frequency Converter
VHS	Video Home System
VF	Focus Voltage
VOL.	Volume
V-REF	Voltage Reference
VP	Vertical Pulse
VSS	Vertical Sync. Separator
Vss	Voltage Super Source
VT	Tuning Voltage
VT-U	Tuning Voltage-UHF
VT-V	Tuning Voltage-VHF
VCXO	Voltage Controlled Crystal Oscillator

W	
WC	Write Clock
WCC	Write Clock Clear
WE	Weighting
WHT	Color Signal WHITE
WIDE	Wide Angle
WHD	Wide Horizontal Drive
WHT BAL CONT.	White Balance Control

Y	
Y	Luminance Signal
Y/C	Luminance/Chrominance
YE (YEL)	Color Singal YELLOW
YL	Luminance Signal (Low Component)

ANOTHER	
μP	Microprocessor
5V	ON 5V B+ Source
9V	ON 9V B+ Source

LEADLESS (CHIP) COMPONENT IDENTIFICATION

1. **Leadless Transistor**
   The part name of a leadless transistor is indicated by a code on its surface, using one letter, one letter and one numeral, two letters, two letters and one numeral, two numerals, two numerals and one letter, three letters, or four letters.

   Note: There are transistors with the same code but differnt part names, or with the same part name but different codes. Refer to the parts lists to finally identify a transistor.

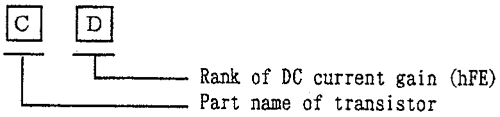
CODE	PART NAME	CODE	PART NAME
Leadless (Chip) Transistor			
3925	2SC3925	BR	2SC2412K
1CQ	2SB902	BR	2SC4617
1D	2SC3127	BS	2SC2412K
1DS	2SD1328S	C-7	2SA811
1DT	2SD1328	C1G	KSC1623
1R	2SB970TX	CB	2SC3646
2BQ	2SK374PQ	CC	2SA1122C
2BR	2SK374QR	CC	2SC3647T
2Y	2SC3757	CC	2SC3647
2YQ	2SC4691	CD	2SA1122D
3N	2SK620	CE	2SA1122E
4N	XN5601	CK	2SD999
4Q	XN1B301	CP	2SC4097
4R	XN1C301	CQ	2SC2411K
5C	XN4601	CR	2SB710
5C	XP4601	CR	2SC2411
5H	XP4501	CR	2SB1219
5H	XN4501	D16	2SC1622A
5K	XP4401	D17	2SC1622A
5K	XN4401	D18	2SC1622A
5L	XN5501	DB	2SD1766
5N	XN6501	DE	2SC2463
5O	XN6401	DF	2SD1623
5R	XP1501	DF	2SD1898
5R	XN1501	DG	2SD1624
5S	XN1504	DK	2SB798
5V	XN1401	EC	2SA1022
5W	XN2501	F-2	2SC1009F2
5X	XN4504	F-3	2SC1009F3
7R	XN2401	F-4	2SC1009F4
7S	XN1601	FC	2SC2619
AA	2SD1757K	FR	2SA1774
AKQ	2SA1738	FR	2SA1037K
AKQ	2SA1806	FR	2SA1576R
AL	2SA1791	FS	2SA1037K
AM	2SC4656	GC	2SC2734
AO	2SB709AQR	GM	3SD1615
AQ	2SB709AQ	HQ	2SA1036K
AQ	2SB766	IC	2SC3016
AR	2SB1462	IRD	2SA1484
AR	2SB766	IS	2SB792S
AR	2SB709ARS	IT	2SB792T
AR	ASB1218R	L-4	2SC1623L4
AS	2SB766	L-5	2SC1623L5
AS	2SB709AS	L-6	2SC1623L6
B3	2SC1621B3	L-6	2SC2812L6
B4	2SC1621B4	L-7	2SC2812L7
BC	2SB1188	L5	MMBC1623L5
BD	2SB1121	L6	MMBC1623L6
BE	2SB1260	LB	2SC2462B
BF	2SB1123	LC	2SC2462C
BF	2SB1308	LD	2SC2462D
BG	2SB1124	LR	2SC2412KLN
BH	2SB1001	M-5	2SA812
BQ	2SB709A	M-6	2SA1179
BR	2SC4081R	MC	2SA1052MC
Leadless (Chip) Transistor			
MD	2SA1052MC-D	ZS	2SD874S
N3	2SC1653	VR	2SD968A
ND	2SD1306ND	W1	FMW1
NE	2SD1306NE	W10	FMW10
PD	2SA1171D	W2	FMW2
PS	2SD814	W3	FMW3
QB	2SC2620QB	WR	2SD602
QC	2SC2620QC	X1	UMX1
QO	2SC2714	X1	IMX1
R22	2SC4226	X2	IMX2
R22	2SC3356	Y1	FMY1
R32	2SC4227	Y12	2SA1464
R34	2SC3583	Y25	NTM3906
R42	2SC3585	Y3	FMY3
RB	2SC2618RB	YCD	2SK197
RC	2SC2618RC	YI	2SA1666
RK	2SC3357	YQ	2SD601YQ
S1	FMS1	YR	2SD601YR
S2	FMS2	YR	2SD1819R
SC	2SA1121	YR	2SD2216
SO	2SA1162	YS	2SD601YS
SP	2SC3082K	Z1	IMZ1
T1	IMT1	Z2	IMZ2
T1	UMT1	ZO	2SD874T
T2	IMT2	ZQ	2SD601A
UD	2SC2404	ZR	2SD874R
Digital Transistor			
3	DTC143TK	6C	UN9113
4	DTC114TK	6S	XP4113
6	DTC144TK	8B	UN5212
13	DTA143EK	8C	UN9213
14	DTA144EK	8C	UN2213
15	DTA124K	8S	XP4213
15	DTA124EU	9L	XP1213
16	DTA144EU	9L	XN1213
16	XDA144EK	A1	FMA1
16	DTA144EE	A1	UMA1
23	DTC143EK	A2	FMA2
24	DTC114EU	B2	UMB2
24	DTC144EK	B2	IMB2
25	DTC124EU	C2	FMC2
25	DTC124K	C5	FMC5
26	DTC144EE	D2	IMD2
26	DTC144EU	F52	DTB123
26	XDC144EK	G1	FMG1
33	DTA143XK	G2	FMG2
43	DTC143XK	G21	DTD113ZK
52	DTA123YK	G5	FMG5
60	UN511F	H03	DTC343TK
64	DTC114YK	H2	IMH2
80	UN521F	H2	UNH2
4P	XN1A312T	H27	DTC363EK
6B	UN5112	R04	KSR1104
6C	UN2113	R31	FP1L2Q
FET			
30	2SK621	WS	2SK322T
1FQ	2SK321FQ	WT	2SK322T
1FR	2SK321FQR	X15	2SK425
1KP	2SK316	X4	2SK94
2BQ	2SK663	XAF	2SK980FG
DY	2SK1579	YC	2SK197YC
JO	2SK208	YD	2SK197YD
K	3SK166	YE	2SK197YE
K4	2SK160K4	ZD	2SK217ZD
K5	2SK160K5	ZE	2SK217ZE
KB	2SK323		

(1) Identification with two letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
CD	2SA1122D
LD	2SC2462D

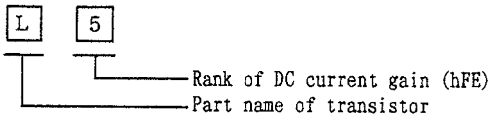

C
D
Rank of DC current gain (hFE)
Part name of transistor

(2) Identification with one letter and one numeral

Use this code and the following chart for transistor identification.

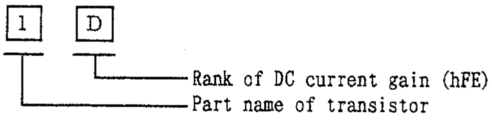
Example :

Code	Part name
L5	2SC1623(5)
L6	2SC1623(6)


L
5
Rank of DC current gain (hFE)
Part name of transistor

Example :

Code	Part name
1D	2SC3127D


1
D
Rank of DC current gain (hFE)
Part name of transistor

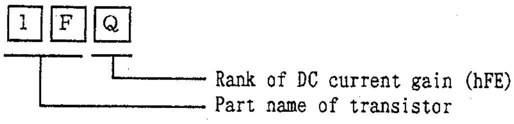
Note: Codes S1,S2,T1,W1,W2,W3,X1,Y1,Y3,Z1 and Z2 encode only the part names.

(3) Identification with one numeral and two letters

Use this code and the following chart for tarnsistor identification.

Example :

Code	Part name
1FQ	2SK321Q

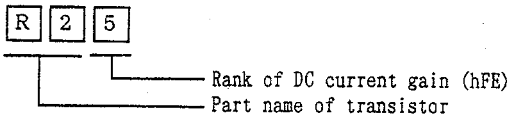

1
F
Q
Rank of DC current gain (hFE)
Part name of transistor

(4) Identification with one letter and two numerals

Use this code and the following chart for transistor identificaion.

Example :

Code	Part name
R25	25C3356

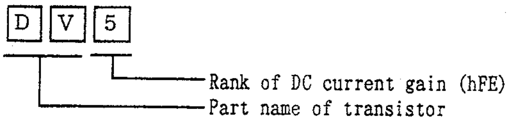

R
2
5
Rank of DC current gain (hFE)
Part name of transistor

(5) Identification with to letters and one numeral

Use this code and the following chart for transistor identification.

Example :

Code	Part name
DV5	2SD596

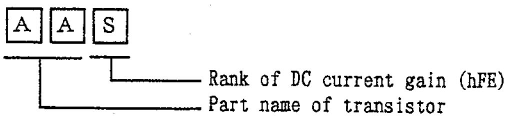

D
V
5
Rank of DC current gain (hFE)
Part name of transistor

(6) Identification with three letters

Use this code and the following chart for transistor identification.

Example :

Code	Part name
AAS	2SD1757KS


A
A
S
Rank of DC current gain (hFE)
Part name of transistor

2. Leadless Diode

The part name of a leadless diode is indicated by a code on the surface, using one letter and one numeral, two letters, two letters and one numeral, two numerals and one letter, or three numerals. Use this code and the following table to identify the part name of a diode.

Note: Refer to the parts lists to finally identify a diode.

CODE	PART NAME	CODE	PART NAME
Diode			
0	HVU300A	3D	RB715F
1.0	1SV201	3.0L	MA3030L
2.0	MA3020	3.6L	MA3036L
5.1	MA3051L	3.9L	MA3039L
5.1	MA3051M	4.3H	MA3043H
6.8	MA3068	4.3L	MA3043L
6.8	MA3068M	4.3M	MA3043M
7.5	MA3075L	4.7L	MA3047L
8.2	MA3082M	4.7M	MA3047M
9.1	MA3091	5.1H	MA3051H
20	HZM6	5.1L	MA3051L
24	1SV221	5.1M	MA3051M
27	RD2.7M B	5.6M	MA3056M
30	RD3.0M B	6.2L	MA3062L
51	RD5.1M B2	6.2M	MA3062M
56	RD5.6M B	6.8H	MA3068H
91	RD9.1M B	6.8L	MA3068L
102	RD10M B2	6.8M	MA3068M
122	RD12M B2	6.8M	MA3068
163	RD16M B3	7.5H	MA3075H
182	RD10M B2	7.5L	MA3075L
271	RD2.7M B	8A	UN221D
272	D2.7M B2	8.2H	MA3082H
301	RD3.0M B	8.2M	MA3082M
362	D3.6M B2	9.1M	MA3091M
391	D3.9M B1	9.1M	MA3091
512	RD5.1M B2	10L	MA3100L
561	RD5.6M B	10M	MA3100M
621	RD6.2M B1	11L	MA3110L
681	RD6.8M	12M	MA3120M
683	RD6.8M B3	13H	MA3130H
911	RD9.1M B	18M	MA3180M
2.7H	MA3027H	36M	MA3360
Zener Diode			
1A	MA110	M3A	MA199
A3	1S2835	MC	MA153
A4	HSM2836C	MC	MA143
A5	1S2837	MH	MA141K
A6	HSM2838C	MH	MA151K

CODE	PART NAME	CODE	PART NAME
	Zener Diode		
B	SB0505CP	MH	MA152K
B64	SFPB64	MI	MA132K
B74	SFPB74	MN	MA141WA
BE	1SV172	MN	MA152WK
C1	HSM88S	MN	MA151WA
C2	HSM276S	MO	MA132WA
C3	1SS226	MO	MA152WA
C4	HSM88WK	MP	MA133
F7	KV1470	MT	MA151WK
H5	HVM14	MT	MA141WK
J	SB07-03C	MU	MA132WK
K	DA221	MU	MA151WA
M1A	MA159	N	DAN222
M1C	MA158	N	DAN202T
M1M	MA721	NU	MA152WK
M1N	MA713DAT	P	DAP202T
M1P	MA714	S4	D1FS4
M2A	MA122	SA	SB10-05P
M2B	MA123	Z	DA106K

3. Leadless Resistor

The resistor value is indicated on its surface, using three numerals, or one letter and one numeral.

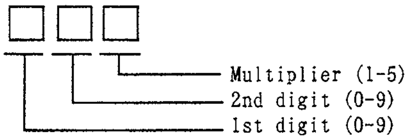
(1) Identification with three numerals

Read this code following the same procedure as when reading the color code on discrete resistors.

Example :

code	value
330	$33 \times 10^0 = 33$ ohms
561	$56 \times 10^1 = 560$ ohms
123	$12 \times 10^3 = 12$K ohms
1R2	$1 + 0.2 = 1.2$ ohms

(R : Decimal point)



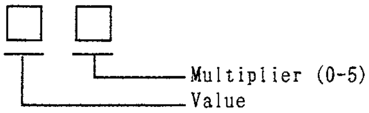
(2) Identification with one letter and one numeral

Use this code and the following chart for resisitor identification.

Letter	Value	Letter	Value	Letter	Value
A	1	J	2.2	S	4.7
C	1.2	L	2.7	U	5.6
E	1.5	N	3.3	W	6.8
G	1.8	Q	3.9	Y	8.2

Example :

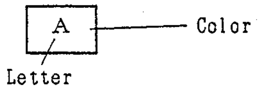
code	value
A1	$1 \times 10^1 = 10$ ohms
G2	$1.8 \times 10^2 = 180$ ohms
L3	$2.7 \times 10^3 = 2700$ ohms
S4	$4.7 \times 10^4 = 47$K ohms
W5	$6.8 \times 10^5 = 680$K ohms



4. Leadless Capacitors

The capacitor value is indicated on its surface, using body color and one letter, or one letter and one numeral.

(1) Identification with body color and one letter

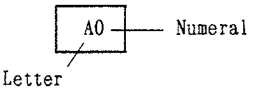


Body Color	Letter	Value	Body Color	Letter	Value
Red	A	1(PF)	Blue	A	100(PF)
	C	2		C	120
	E	3		E	150
	G	4		G	180
	J	5		J	220
	L	6		L	270
	N	7		N	330
	Q	8		Q	390
	S	9		S	470
Black	A	10(PF)		U	560
	C	12		W	680
	E	15		Y	820
	G	18	White	A	0.001(μF)
	J	22		E	0.0015
	L	27		J	0.0022
	N	33		L	0.0027
	Q	39		N	0.0033
	S	47		S	0.0047
	U	56		W	0.0068
	W	68	Green	A	0.01(μF)
	Y	82		E	0.015
				J	0.022
				N	0.033
				S	0.047
				U	0.056
				W	0.068
				Y	0.082
			Yellow	A	0.1(μF)

Example :

Color	Letter	Value
Red	A	1PF
Black	A	10PF

(2) Identification with one letter and one numeral



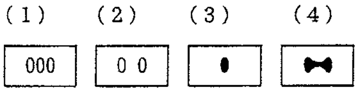
Letter/Numeral	Value	Letter/Numeral	Value
A0	1(PF)	A2	100(PF)
H0	2	C2	120
M0	3	E2	150
d0	4	G2	180
f0	5	J2	220
m0	6	L2	270
n0	7	N2	330
t0	8	Q2	390
y0	9	S2	470
A1	10(PF)	U2	560
C1	12	W2	680
E1	15	Y2	820
G1	18	A3	0.001(μF)
J1	22	E3	0.0015
L1	27	J3	0.0022
N1	33	N3	0.0033
Q1	39	S3	0.0047
S1	47	W3	0.0068
U1	56	A4	0.01(μF)
W1	68	E4	0.015
Y1	82	J4	0.022
		N4	0.033
		S4	0.047
		U4	0.056
		W4	0.068
		A5	0.1

Example :

Letter/Numeral	Value
A0	1PF
A1	10PF

5. Leadless Jumper

The leadless jumper is indicated as shown below.



CHAPTER 2

DISASSEMBLY

1. NAMES AND LOCATIONS OF CIRCUIT BOARDS

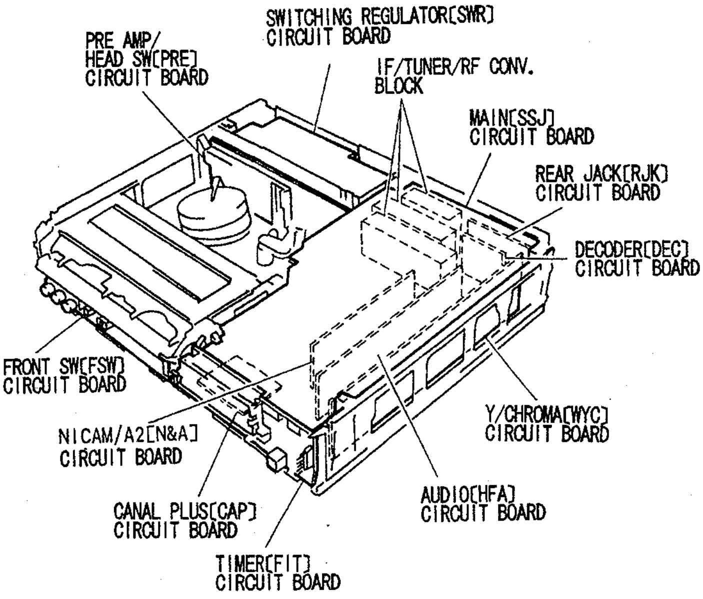

SWITCHING REGULATOR[SWR] CIRCUIT BOARD
PRE AMP/ HEAD SW[PRE] CIRCUIT BOARD
IF/TUNER/RF CONV. BLOCK
MAIN[SSJ] CIRCUIT BOARD
REAR JACK[RJK] CIRCUIT BOARD
DECODER[DEC] CIRCUIT BOARD
FRONT SW[FSW] CIRCUIT BOARD
NICAM/A2[N&A] CIRCUIT BOARD
Y/CHROMA[WYC] CIRCUIT BOARD
AUDIO[HFA] CIRCUIT BOARD
CANAL PLUS[CAP] CIRCUIT BOARD
TIMER[FIT] CIRCUIT BOARD

Fig. 1-1 Top View

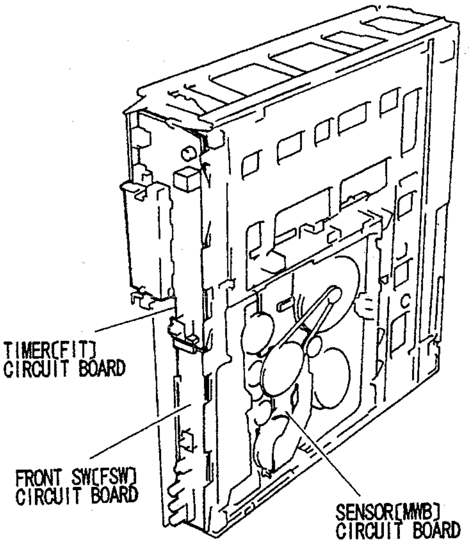

TIMER[FIT] CIRCUIT BOARD
FRONT SW[FSW] CIRCUIT BOARD
SENSOR[MWB] CIRCUIT BOARD

Fig. 1-2 Bottom View

[Procedure when removing]
Remove the components in the order of letters (A, B, C …) in the illustrations.
[Procedure when reinstalling]
Reinstall the components by the reverse procedure to removal when not otherwise specified.

2. CASE REMOVAL

1. Top Cover

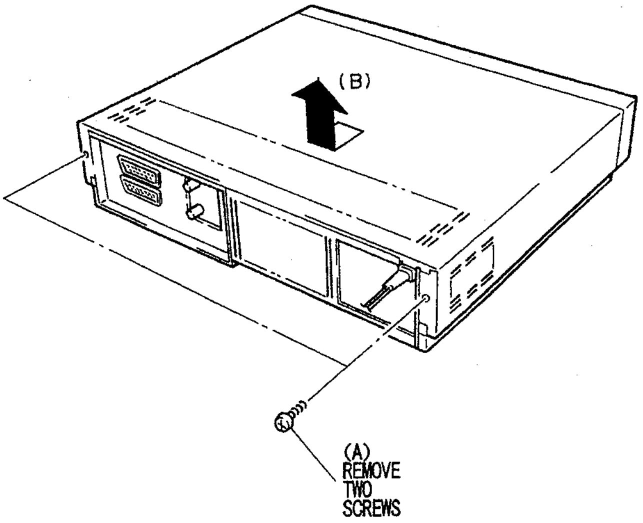

(B)
(A) REMOVE TWO SCREWS

Fig. 2-1

2. Bottom Cover

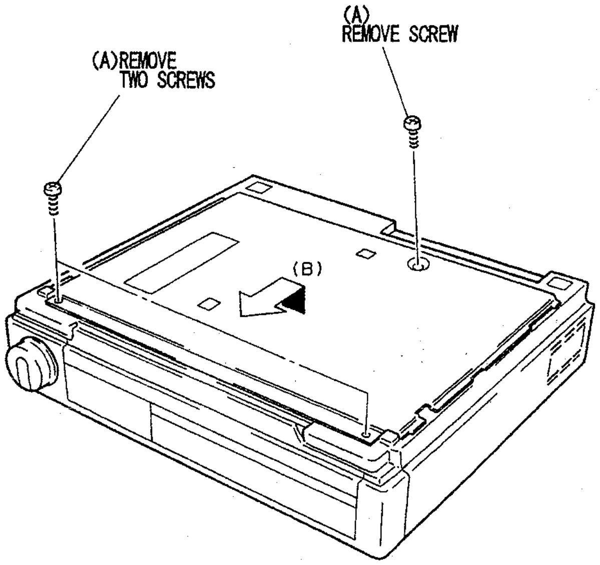

(A) REMOVE SCREW
(A)REMOVE TWO SCREWS
(B)

Fig. 2-2

3. Front Panel

◆ Components to remove first

1) Top Cover (Item 2-1)
2) Bottom Cover (Item 2-2)

◆ Caution when reinstalling

- Reinstall the front panel while the cassette door is pushed in halfway so that the boss of door actuating arm can be positively engaged with the recess on the side of the door as shown below.

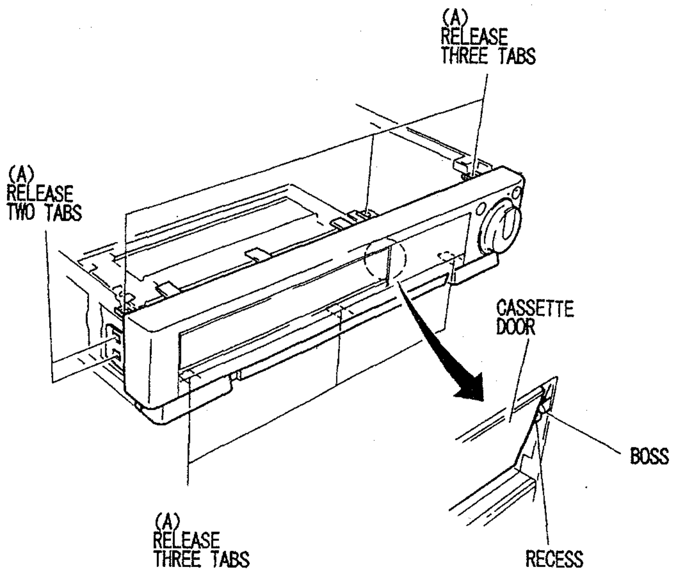

(A) RELEASE THREE TABS
(A) RELEASE TWO TABS
CASSETTE DOOR
BOSS
(A) RELEASE THREE TABS
RECESS

Fig. 2-3

4. Cassette Door

◆ Components to remove first

1) Front Panel (Item 2-3)

◆ Caution when reinstalling

- Attach the spring at the right of the cassette door firmly.

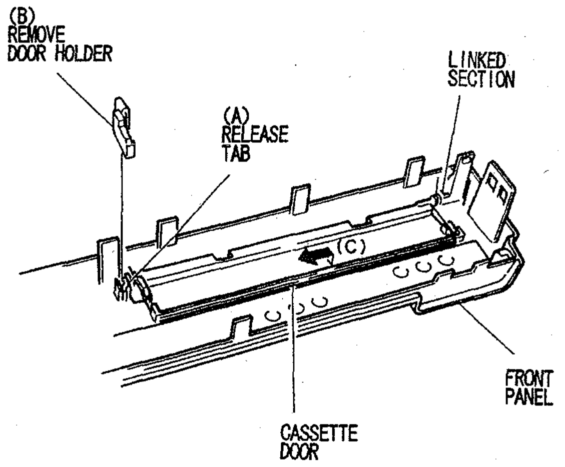

(B) REMOVE DOOR HOLDER
(A) RELEASE TAB
LINKED SECTION
(C)
FRONT PANEL
CASSETTE DOOR

Fig. 2-4

5. Rear Panel

◆ Components to remove first

1) Main circuit board (Item 3-3)

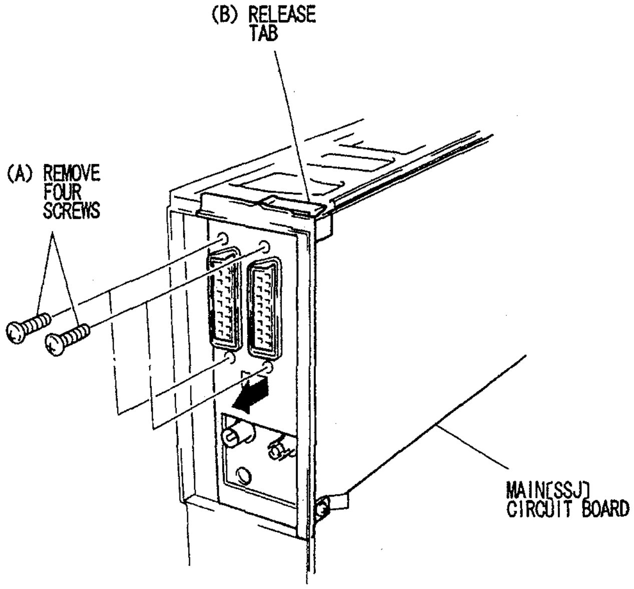

(B) RELEASE TAB
(A) REMOVE FOUR SCREWS
MAIN[SSJ] CIRCUIT BOARD

Fig. 2-5

3. CIRCUIT BOARD REMOVAL

1. Front SW [FSW] / Timer [FIT] Circuit Boards

◆ Components to remove first

1) Front Panel (Item 2-3)

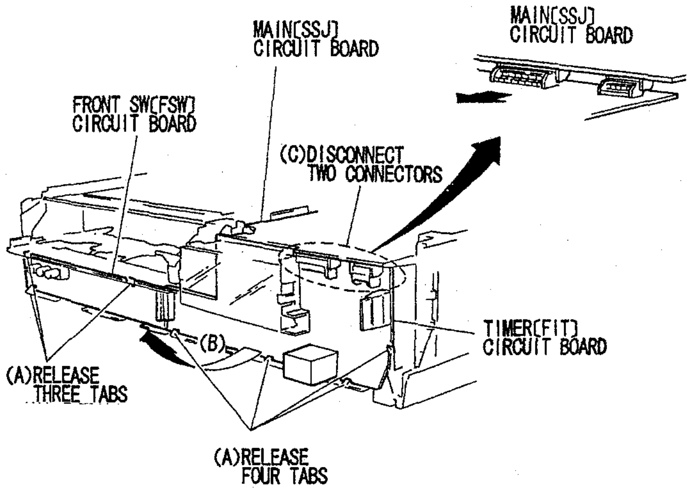

MAIN[SSJ] CIRCUIT BOARD
MAIN[SSJ] CIRCUIT BOARD
FRONT SW[FSW] CIRCUIT BOARD
(C)DISCONNECT TWO CONNECTORS
TIMER[FIT] CIRCUIT BOARD
(B)
(A)RELEASE THREE TABS
(A)RELEASE FOUR TABS

Fig. 3-1

2. Shuttle [STL] Circuit Board

◆ Components to remove first

1) Front Panel (Item 2-3)

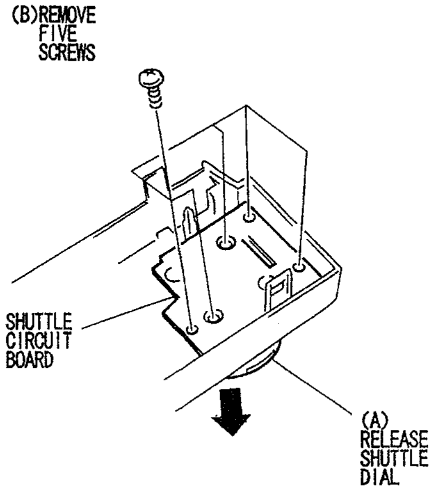

(B)REMOVE FIVE SCREWS
SHUTTLE CIRCUIT BOARD
(A) RELEASE SHUTTLE DIAL

Fig. 3-2

3. Main [SSJ] Circuit Board

◆ Components to remove first

1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)

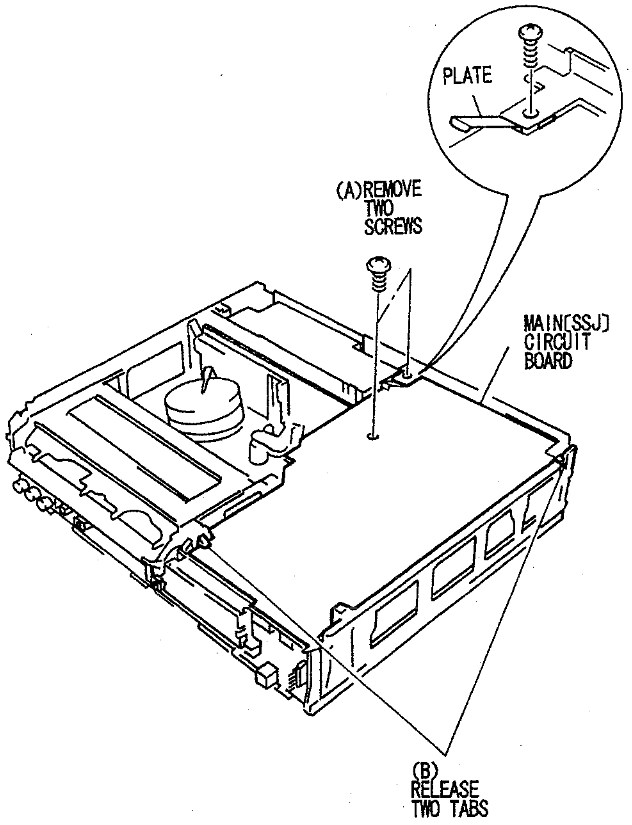


PLATE
(A)REMOVE TWO SCREWS
MAIN[SSJ] CIRCUIT BOARD
(B) RELEASE TWO TABS

Fig. 3-3

4. Y/Chroma [WYC], Audio [HFA] and NICAM/A2 [N&A] Circuit Boards

◆ Components to remove first

1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-3)

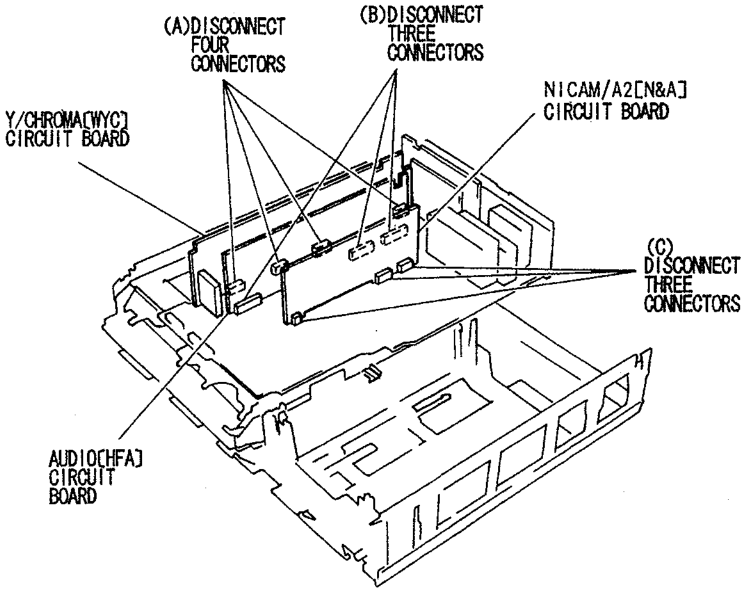

(A)DISCONNECT FOUR CONNECTORS
(B)DISCONNECT THREE CONNECTORS
NICAM/A2[N&A] CIRCUIT BOARD
Y/CHROMA[WYC] CIRCUIT BOARD
(C) DISCONNECT THREE CONNECTORS
AUDIO[HFA] CIRCUIT BOARD

Fig. 3-4

5. AI / Y-Delay [YD] Circuit Boards

◆ Components to remove first

1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-3)
3) Y/Chroma [WYC] circuit board (Item 3-4)

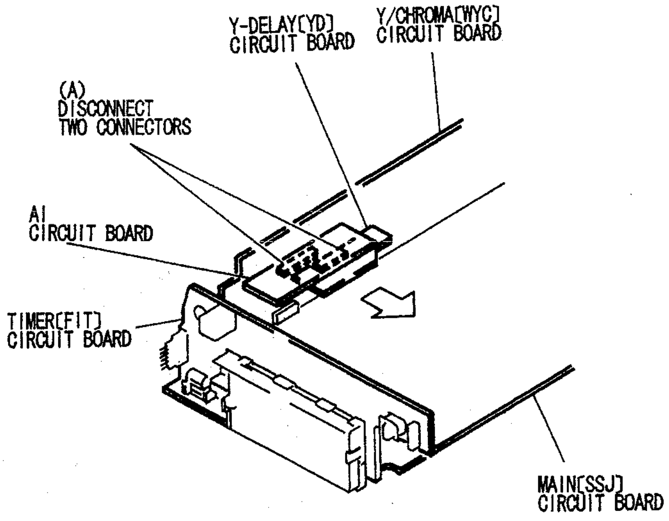

Y-DELAY[YD] CIRCUIT BOARD
Y/CHROMA[WYC] CIRCUIT BOARD
(A) DISCONNECT TWO CONNECTORS
AI CIRCUIT BOARD
TIMER[FIT] CIRCUIT BOARD
MAIN[SSJ] CIRCUIT BOARD

Fig. 3-5

6. Canal Plus [CAP] Circuit Board

◆ Components to remove first
1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-3)

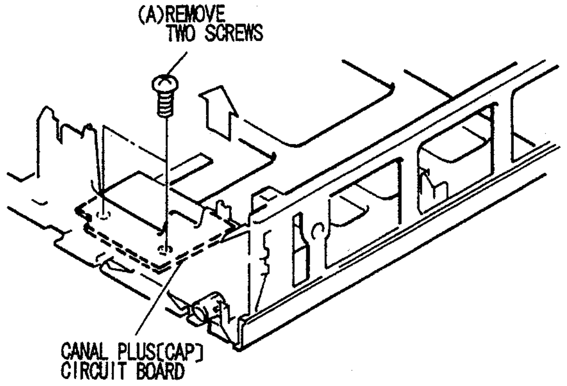

(A)REMOVE TWO SCREWS
CANAL PLUS[CAP] CIRCUIT BOARD

Fig. 3-6

7. Switching Regulator [SWR] Circuit Board
8. Pre-Amp/Head SW [PRE] Circuit Board

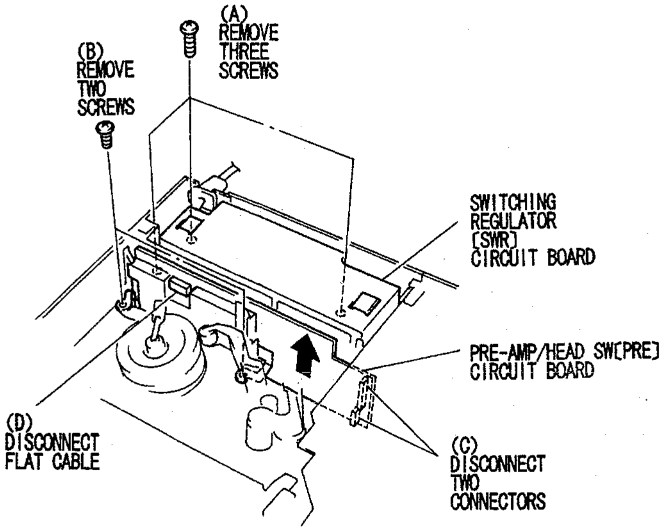

(A) REMOVE THREE SCREWS
(B) REMOVE TWO SCREWS
SWITCHING REGULATOR [SWR] CIRCUIT BOARD
PRE-AMP/HEAD SW[PRE] CIRCUIT BOARD
(D) DISCONNECT FLAT CABLE
(C) DISCONNECT TWO CONNECTORS

Fig. 3-7

9. Decoder [DEC] Circuit Board

◆ Components to remove first
1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-3)

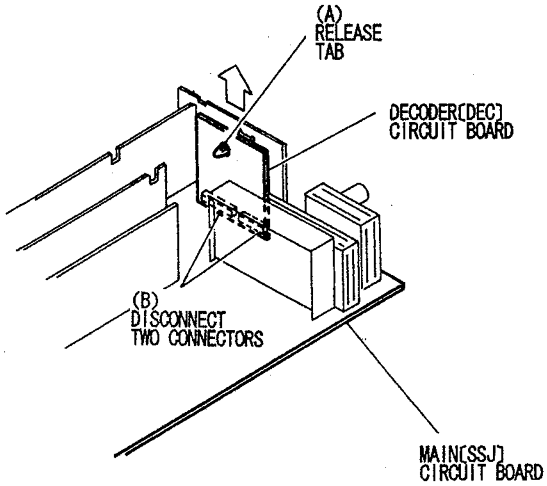

(A) RELEASE TAB
DECODER[DEC] CIRCUIT BOARD
(B) DISCONNECT TWO CONNECTORS
MAIN[SSJ] CIRCUIT BOARD

Fig. 3-8

10. Rear Jack [RJK] Circuit Board

◆ Components to remove first
1) Front SW [FSW] / Timer [FIT] circuit boards (Item 3-1)
2) Main [SSJ] circuit board (Item 3-3)

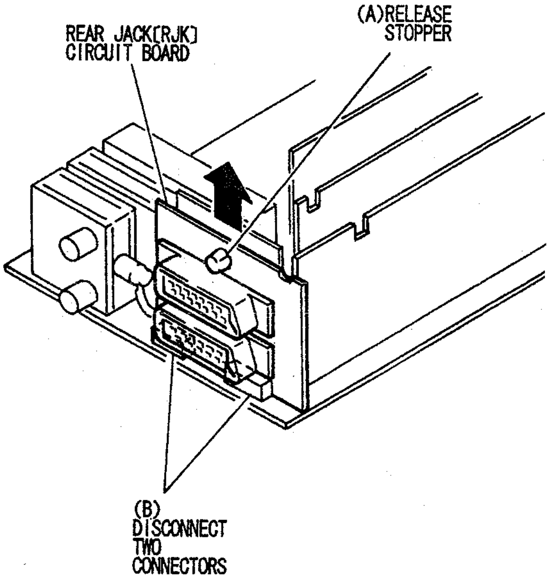

REAR JACK[RJK] CIRCUIT BOARD
(A)RELEASE STOPPER
(B) DISCONNECT TWO CONNECTORS

Fig. 3-9

11. Sensor [MWB] Circuit Board

◆ **Components to remove first**

1) Centre Pulley/FL Relay Gear (B) (Item 6-16)
2) Roller Plate/Mode Gear (Item 6-18)

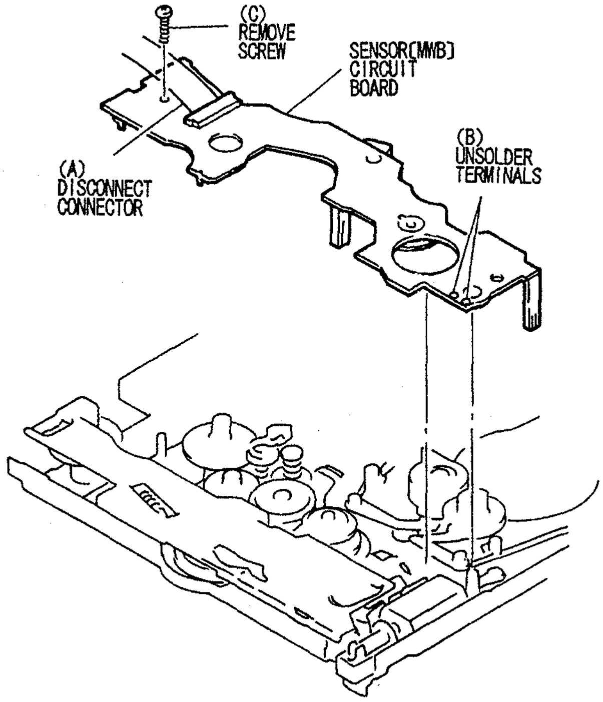
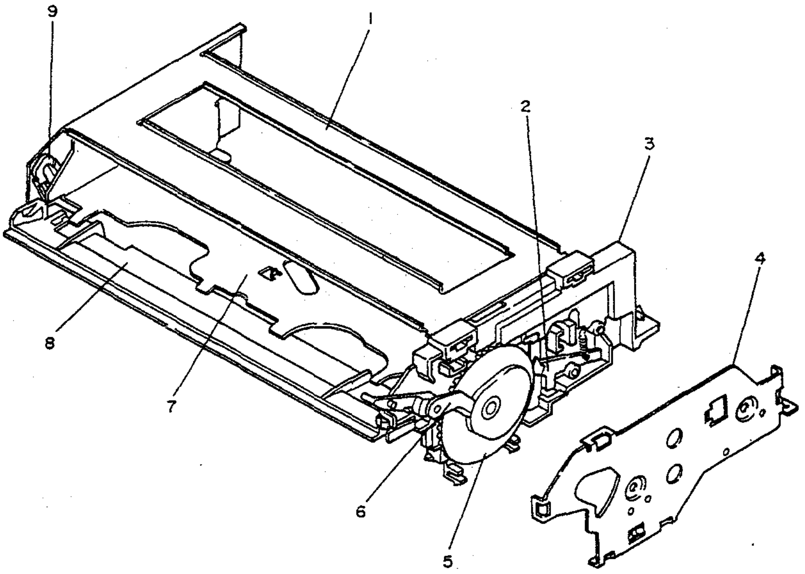

(C) REMOVE SCREW
SENSOR[MWB] CIRCUIT BOARD
(B) UNSOLDER TERMINALS
(A) DISCONNECT CONNECTOR

Fig. 3-10

4. IDENTIFICATIONS AND LOCATIONS OF MAIN MECHANICAL COMPONENTS



1. Chassis Holder
2. Switch Arm
3. Side Chassis
4. Gear Bracket
5. FL Gear
6. Door Arm
7. Cassette Holder
8. Front Holder
9. FL Drive Arm

Fig. 4-1 Cassette Loading Mechanism

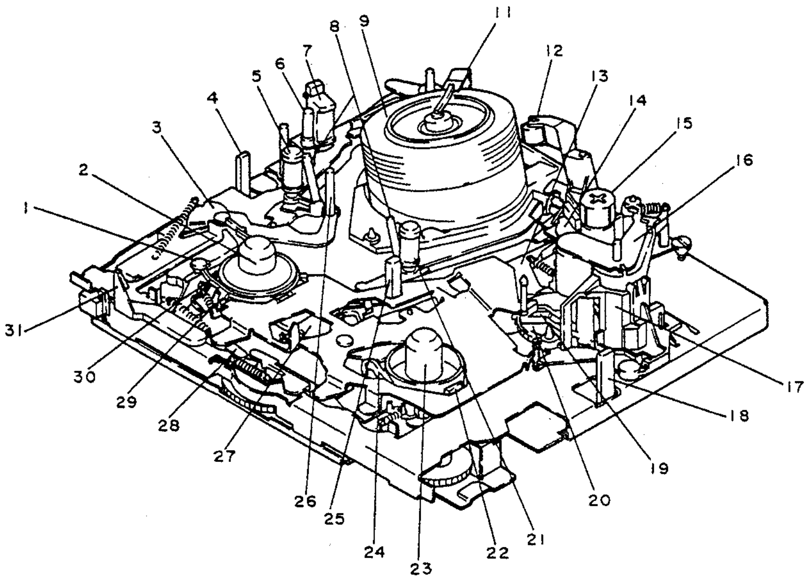


Fig. 4-2 Top View of Mechanism

1. Tension Drive Arm
2. Supply Reel Disk
3. Tension Arm
4. Supply End Sensor
5. Supply Guide Roller
6. Supply Guide Pole
7. Full Erase (FE) Head
8. Inclined Guides
9. Cylinder Motor Assembly
10. ———
11. Static Discharge Brush
12. Head Cleaning Arm Assembly
13. Fine Slow Brake Arm
14. Audio/Control (A/C) Head
15. Capstan Shaft Holder
16. Pressure Roller Assembly
17. Cassette Lid Opener
18. Take-up End Sensor
19. Middle Pole
20. Pressure Roller Drive Gear
21. Take-up Guide Roller
22. Take-up Sub Brake
23. Take-up Reel Disk
24. Take-up Main Brake
25. End LED
26. Tension Pole
27. Torque Change Arm
28. Supply Main Brake
29. Supply Sub Brake
30. Tension Band Assembly
31. Safety Arm

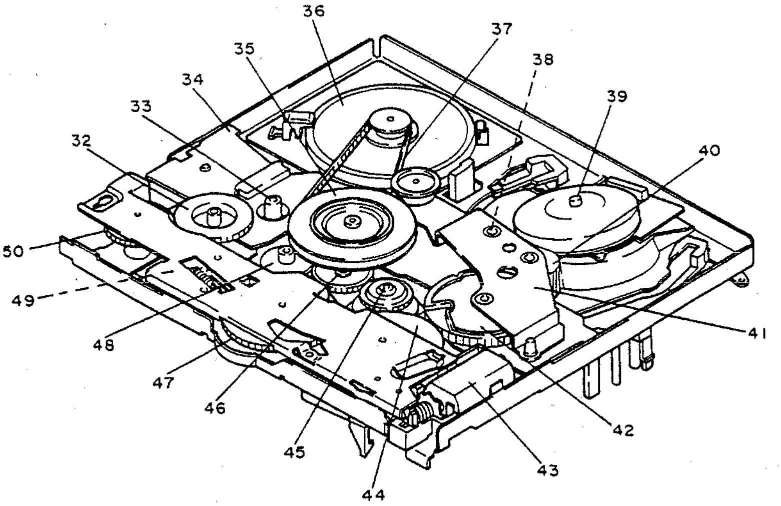


Fig. 4-3 Bottom View of Mechanism

32. FL Relay Gear (B)
33. FL Relay Gear (A)
34. Sensor Circuit Board
35. Centre Pulley
36. Capstan Motor Assembly
37. Drive Belt
38. Take-up Loading Gear
39. Cylinder Motor Assembly
40. Supply Loading Gear
41. Roller Plate
42. Mode Gear
43. Loading Motor
44. Cam Gear (A)
45. Reel Gear (L)
46. Reel Drive Idler
47. Cam Gear (B)
48. Reel Gear (R)
49. Latch Arm
50. FL Relay Gear (C)

Be sure to remove cases, etc. before servicing the mechanism and replacing components, otherwise, the cases, etc. could be damaged.

(Procedure of disassembly)
Remove the parts in the order of letters (A,B,C …) shown in the illustrations.

(Procedure of reinstallation)
Reinstall the parts by the reverse procedure to removal when no special cautions are given.

5. CASSETTE LOADING MECHANISM REMOVAL

1. Cassette Loading Mechanism

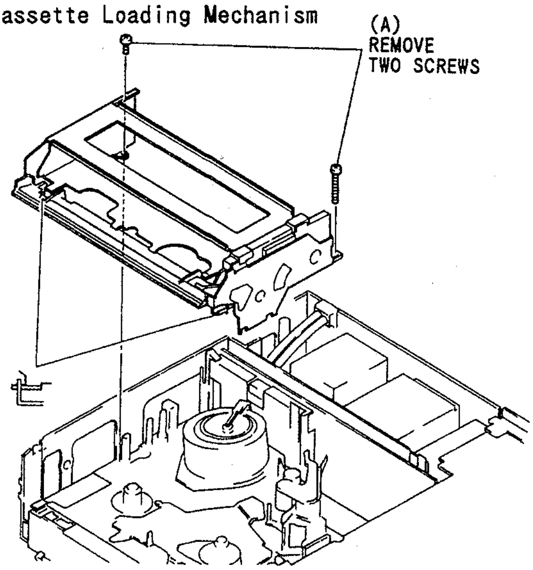

(A)
REMOVE
TWO SCREWS

Fig. 5-1

2. Side Gear Bracket, Chassis Holder, FL Drive Arm, Cassette Holder Assembly and Front Holder

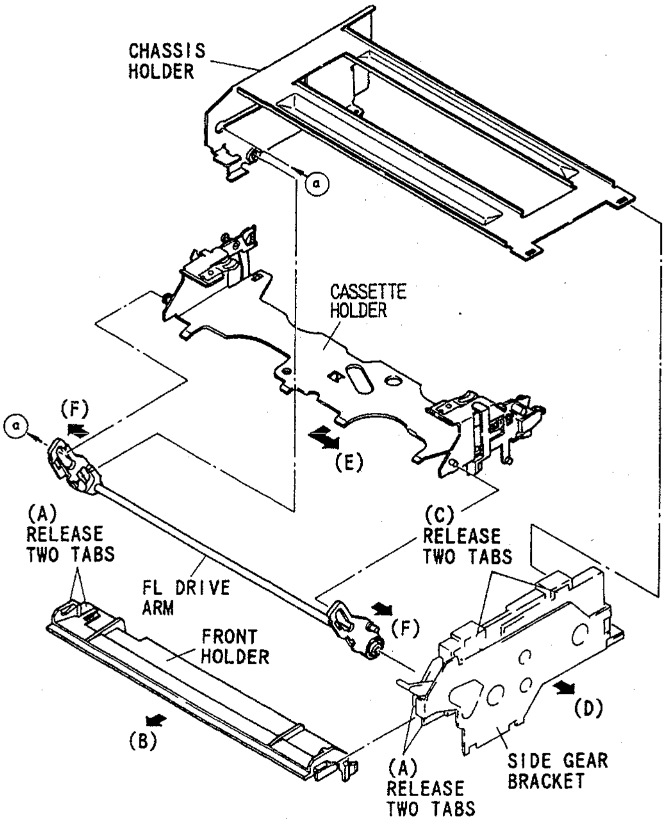

CHASSIS
HOLDER
ⓐ
CASSETTE
HOLDER
(F)
ⓐ
(E)
(A)
RELEASE
TWO TABS
(C)
RELEASE
TWO TABS
FL DRIVE
ARM
(F)
FRONT
HOLDER
(D)
(B)
(A)
RELEASE
TWO TABS
SIDE GEAR
BRACKET

Fig. 5-2

◆ **Cautions when reinstalling**

1) Check the insertions of 6 bosses.

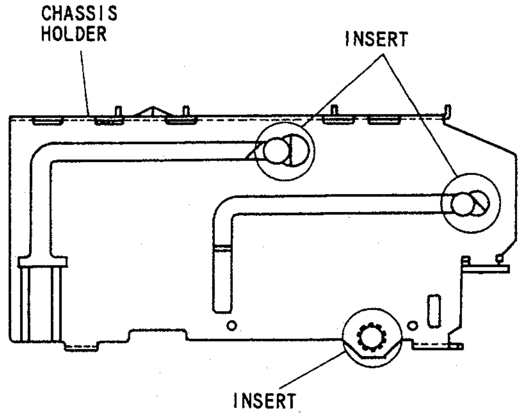

CHASSIS
HOLDER
INSERT
INSERT

Fig. 5-3

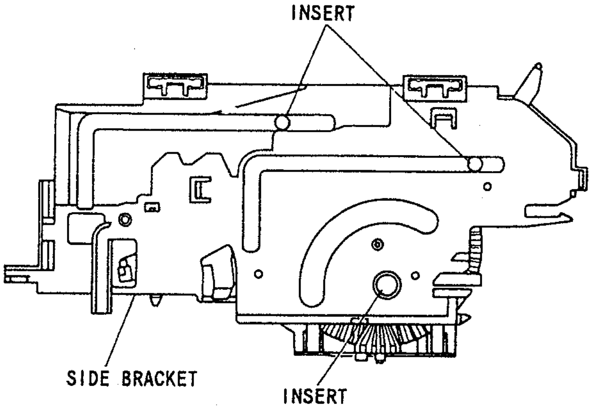

INSERT
SIDE BRACKET
INSERT

Fig. 5-4

3. Gear Bracket, Door Arm, FL Gears (A),(B) and Switch Arm

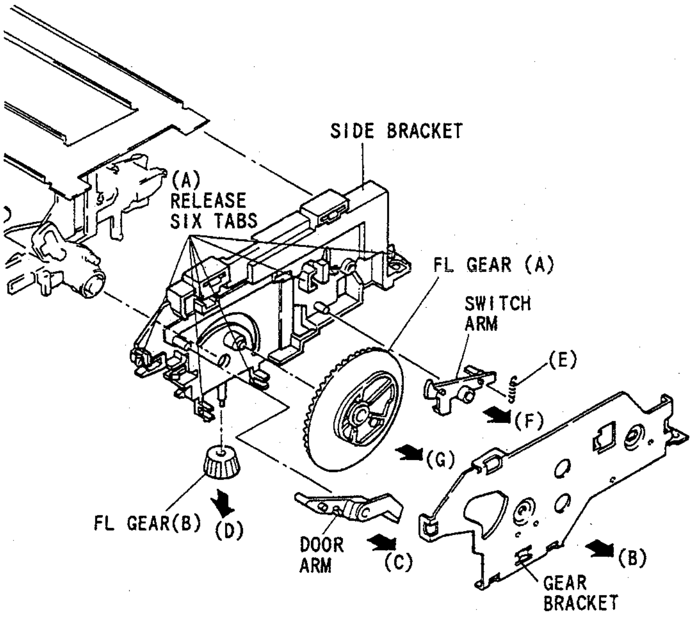

SIDE BRACKET
(A)
RELEASE
SIX TABS
FL GEAR (A)
SWITCH
ARM
(E)
(F)
(G)
FL GEAR(B)
(D)
DOOR
ARM
(C)
(B)
GEAR
BRACKET

Fig. 5-5

◆ **Cautions when reinstalling**

1) When reinstalling FL gear (A), align the hole in FL gear (A) and the hole in the side bracket.

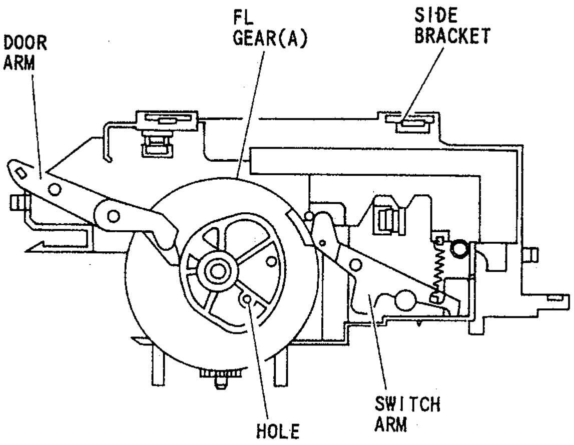

DOOR ARM
FL GEAR(A)
SIDE BRACKET
HOLE
SWITCH ARM

Fig. 5-6

6. MAIN MECHANICAL COMPONENTS REMOVAL

1. FE (Full Erase) Head

◆ **Caution when reinstalling**

1) Keep the surface of the FE head and supply guide pole which is in contact with the tape clean.

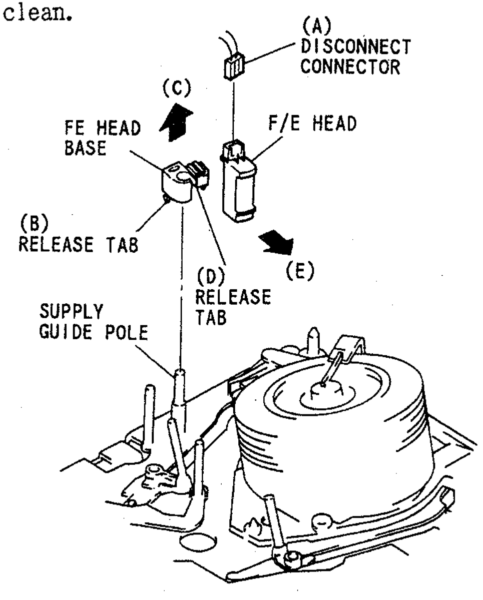

(A) DISCONNECT CONNECTOR
(C)
FE HEAD BASE
F/E HEAD
(B) RELEASE TAB
(D) RELEASE TAB
(E)
SUPPLY GUIDE POLE

Fig. 6-1

2. A/C (Audio/Control) Head

◆ **Cautions when reinstalling**

1) Hook the bottom of the spring under the head base to the chassis and the top to the stopper of the head base.
2) Keep the surface of the A/C head which is in contact with the tape clean.

◆ **Adjustments after reinstalling**

1) A/C (Audio/Control) Head Adjustment
2) X-Value Adjustment
3) Audio Bias Level Adjustment

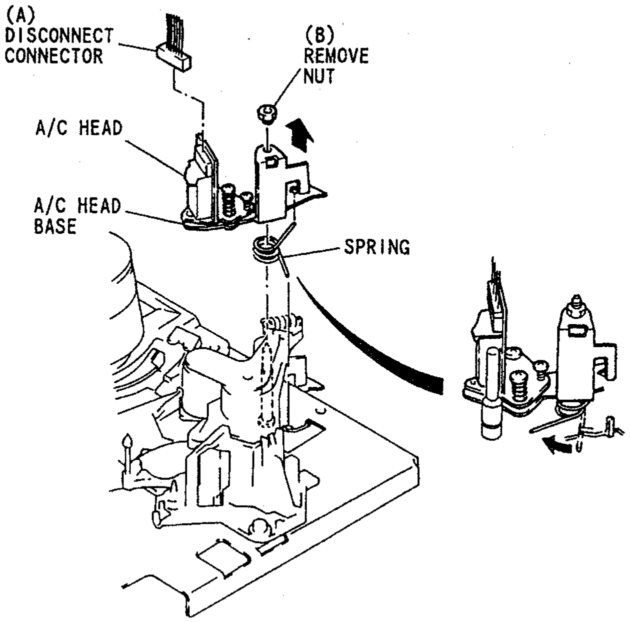

(A) DISCONNECT CONNECTOR
(B) REMOVE NUT
A/C HEAD
A/C HEAD BASE
SPRING

Fig. 6-2

3. Upper Cylinder (Video Heads) and Head Cleaning Bracket Assembly

◆ **Cautions during work**

1) Pull out the upper cylinder vertically to the cylinder attachment direction.
2) Do not touch video head tips.

◆ **Cautions when reinstalling**

1) Put the hole in the upper cylinder onto the pole of the lower cylinder.
2) Tighten the two upper cylinder retaining screws alternately.

◆ **Adjustment after reinstalling**

1) Adjustment after replacing the cylinder (video heads).
2) Head Switching Point Adjustment.

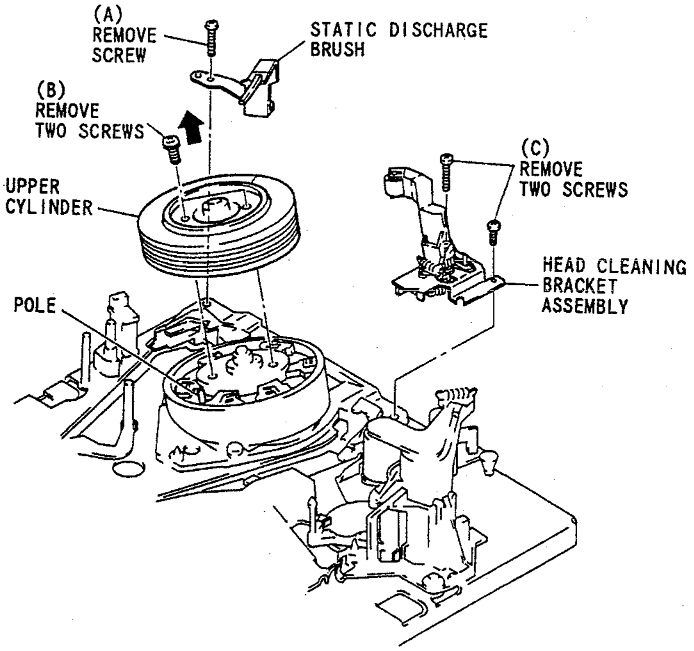

(A) REMOVE SCREW
STATIC DISCHARGE BRUSH
(B) REMOVE TWO SCREWS
(C) REMOVE TWO SCREWS
UPPER CYLINDER
HEAD CLEANING BRACKET ASSEMBLY
POLE

Fig. 6-3

4. Cylinder Motor Assembly

◆ Cautions during work

1) Place the side of the unit down for working.
2) Do not touch video head tips.

◆ Adjustment after reinstalling

1) Adjustment after replacing the cylinder (video heads).

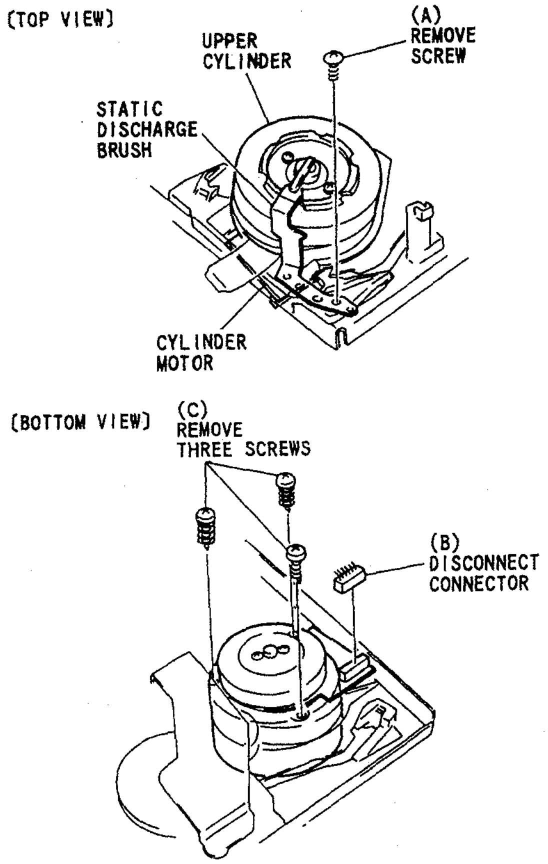

[TOP VIEW]
UPPER CYLINDER
(A) REMOVE SCREW
STATIC DISCHARGE BRUSH
CYLINDER MOTOR
[BOTTOM VIEW]
(C) REMOVE THREE SCREWS
(B) DISCONNECT CONNECTOR

Fig. 6-4

5. Capstan Motor Assembly

◆ Components to remove previously

1) Remove the drive belt.

◆ Caution when reinstalling

1) Keep the surface of the capstan shaft which is in contact with the tape clean.

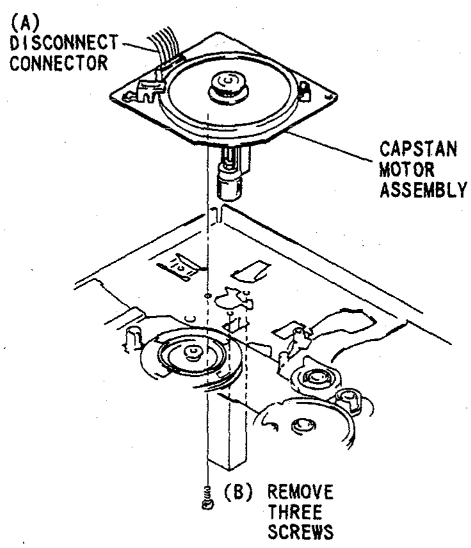

(A) DISCONNECT CONNECTOR
CAPSTAN MOTOR ASSEMBLY
(B) REMOVE THREE SCREWS

Fig. 6-5

6. Tension Band/ Tension Arm/ Tension Drive Arm

◆ Caution when reinstalling

1) Keep the surface of the tension pole which is in contact with the tape clean.
2) Insert the boss of this arm into the groove in cam gear (A). (See Fig. 6-7)

◆ Adjustments after reinstalling

1) Tension Pole Position and Tension Adjustment

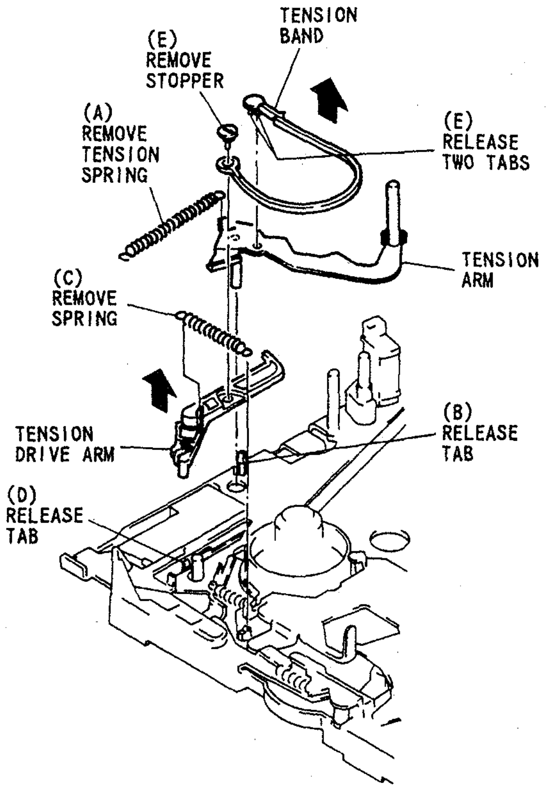

TENSION BAND
(E) REMOVE STOPPER
(A) REMOVE TENSION SPRING
(E) RELEASE TWO TABS
TENSION ARM
(C) REMOVE SPRING
(B) RELEASE TAB
TENSION DRIVE ARM
(D) RELEASE TAB

Fig. 6-6

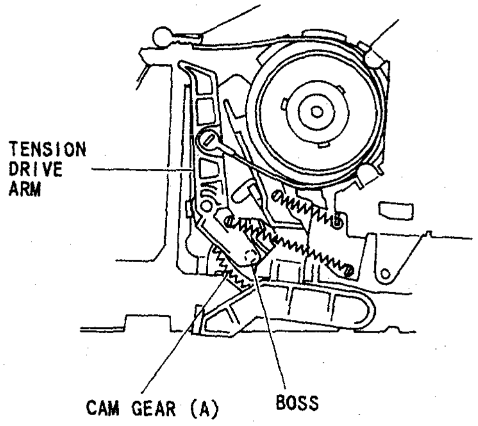

TENSION DRIVE ARM
CAM GEAR (A)
BOSS

Fig. 6-7

7. Safety Arm

◆ **Components to remove previously**
1) Tension Band/Tension Arm/Tension Drive Arm (Item 6-6)

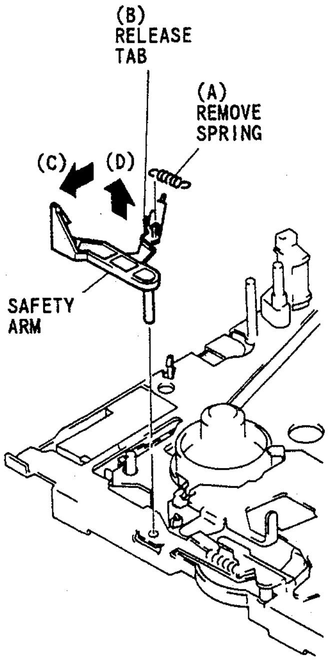

(B)
RELEASE
TAB
(A)
REMOVE
SPRING
(C)
(D)
SAFETY
ARM

Fig. 6-8

8. Upper Plate, Torque Change Arm, Supply/Take-up Main Brakes

Note: Refer to item 23 on page 2-14 for the procedure to install the torque arm.

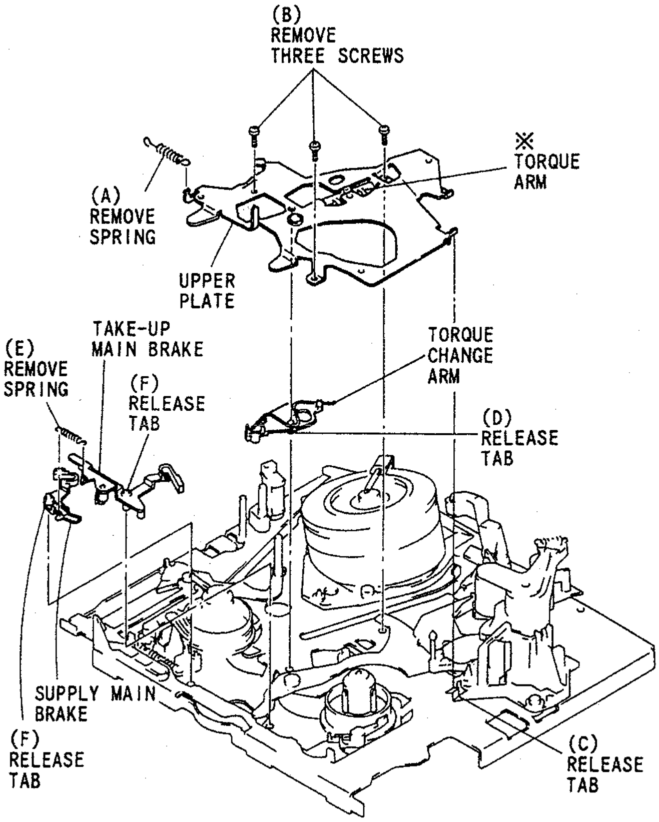

(B)
REMOVE
THREE SCREWS
※
TORQUE
ARM
(A)
REMOVE
SPRING
UPPER
PLATE
TAKE-UP
MAIN BRAKE
(E)
REMOVE
SPRING
(F)
RELEASE
TAB
TORQUE
CHANGE
ARM
(D)
RELEASE
TAB
SUPPLY MAIN
BRAKE
(F)
RELEASE
TAB
(C)
RELEASE
TAB

Fig. 6-9

9. Supply/Take-up Reel Disks, Supply/Take-up Sub Brakes

◆ **Components to remove previously**
1) Upper Plate, Supply/Take-up Main Brakes (Item 6-8)
2) Tension Arm/Tension Band Assembly (Item 6-6)

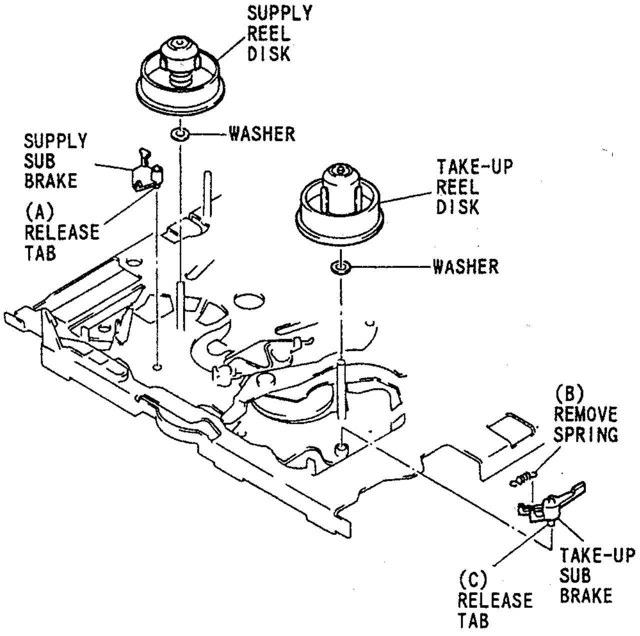

SUPPLY
REEL
DISK
WASHER
SUPPLY
SUB
BRAKE
(A)
RELEASE
TAB
TAKE-UP
REEL
DISK
WASHER
(B)
REMOVE
SPRING
TAKE-UP
SUB
BRAKE
(C)
RELEASE
TAB

Fig. 6-10

10. Pressure Roller Assembly

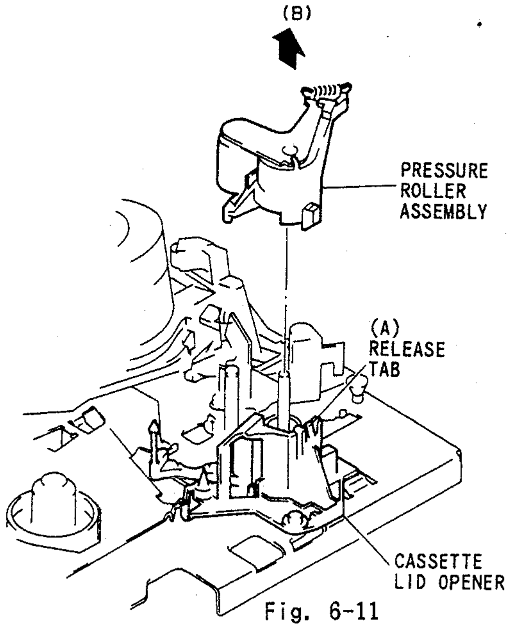

(B)
PRESSURE
ROLLER
ASSEMBLY
(A)
RELEASE
TAB
CASSETTE
LID OPENER

Fig. 6-11

11. Pressure Roller Cam Gear, Cassette Lid Opener and Middle Pole

◆ **Components to remove previously**
1) Pressure Roller Assembly (Item 6-10)

◆ **Caution when reinstalling**
1) Keep the surface of the middle pole which is in contact with the tape clean.
2) Hook the spring between the middle pole and chassis.
3) Align mark (○) on the pressure roller cam gear and mark (△) on the pressure roller drive gear. (See Fig. 6-15)

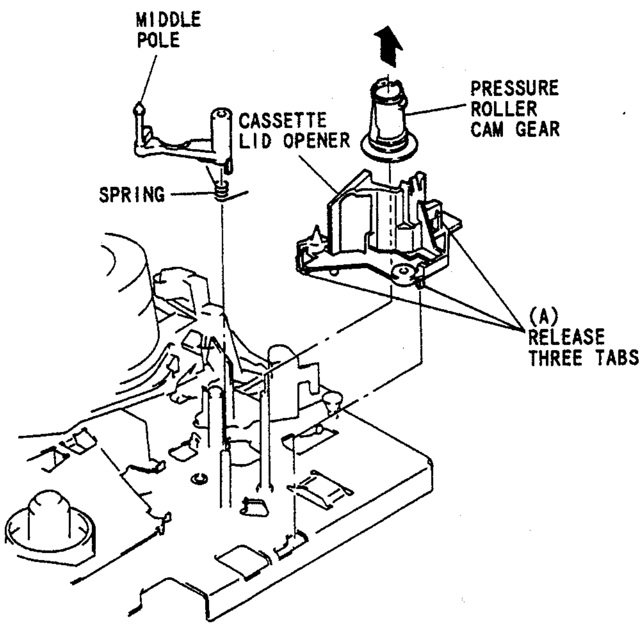

MIDDLE POLE
CASSETTE LID OPENER
PRESSURE ROLLER CAM GEAR
SPRING
(A) RELEASE THREE TABS

Fig. 6-12

12. Pressure Roller Drive Gear

◆ Components to remove previously

1) Upper Plate (Item 6-8)
2) Pressure Roller Assembly (Item 6-10)
3) Pressure Roller Cam Gear, Cassette Lid Opener and Middle Pole (Item 6-11)

◆ Caution when reinstalling

1) Align hole (A) in the pressure roller drive gear and the hole in the chassis. Also align the markings on the pressure roller drive gear and arm.

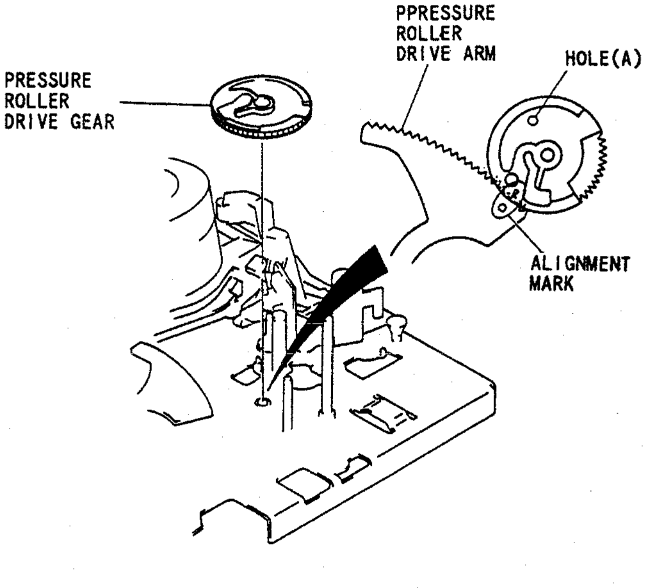

PPRESSURE ROLLER DRIVE ARM
HOLE(A)
PRESSURE ROLLER DRIVE GEAR
ALIGNMENT MARK

Fig. 6-13

13. Pressure Roller Drive Arm and Fine Slow Brake Arm

◆ Components to remove previously

1) Head Cleaning Bracket Assembly (Item 6-3)
2) Upper Plate (Item 6-8)

◆ Caution when reinstalling

1) Check that the boss of the pressure roller drive arm is securely inserted into the groove in cam gear (B). (See Fig. 6-15)
2) Align hole (A) in the pressure roller drive arm and the hole in the chassis. (See Fig. 6-15)

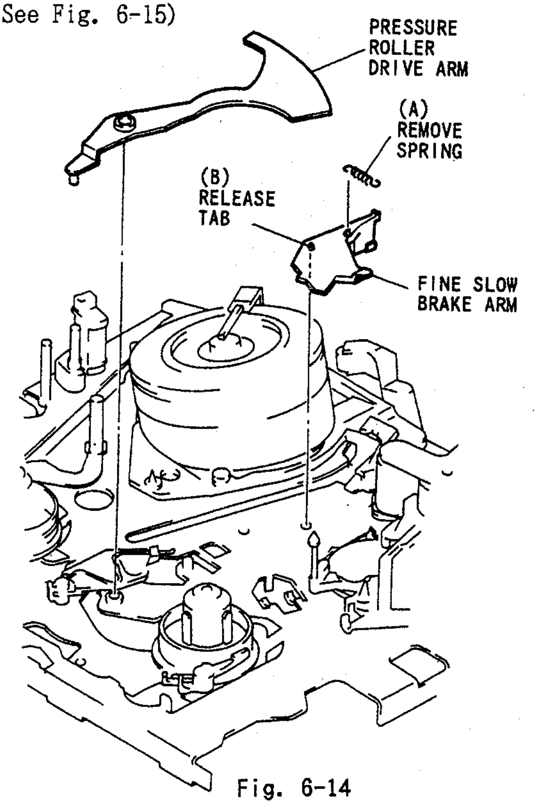

PRESSURE ROLLER DRIVE ARM
(A) REMOVE SPRING
(B) RELEASE TAB
FINE SLOW BRAKE ARM

Fig. 6-14

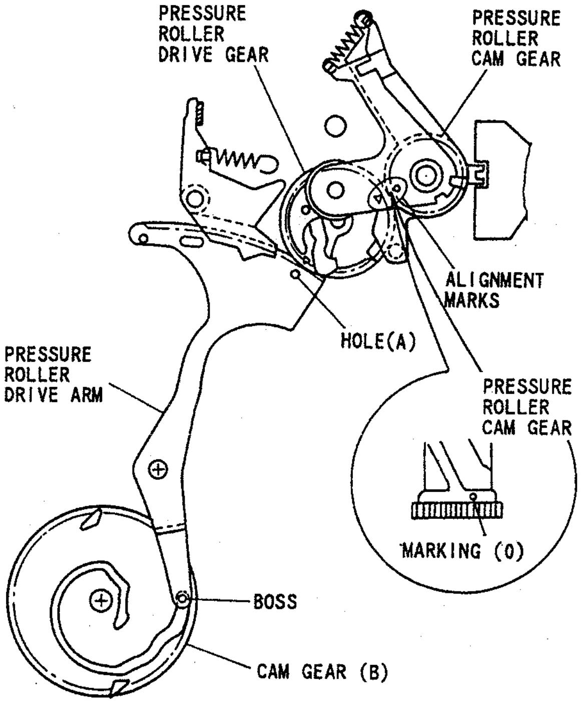

PRESSURE ROLLER DRIVE GEAR
PRESSURE ROLLER CAM GEAR
ALIGNMENT MARKS
HOLE(A)
PRESSURE ROLLER DRIVE ARM
PRESSURE ROLLER CAM GEAR
MARKING (O)
BOSS
CAM GEAR (B)

Fig. 6-15

14. Supply/Take-up Guide Rollers

◆ **Caution when reinstalling**
1) Keep the surface of the guide roller which is in contact with the tape clean.

◆ **Adjustments after reinstalling**
1) Guide Roller Height Adjustment

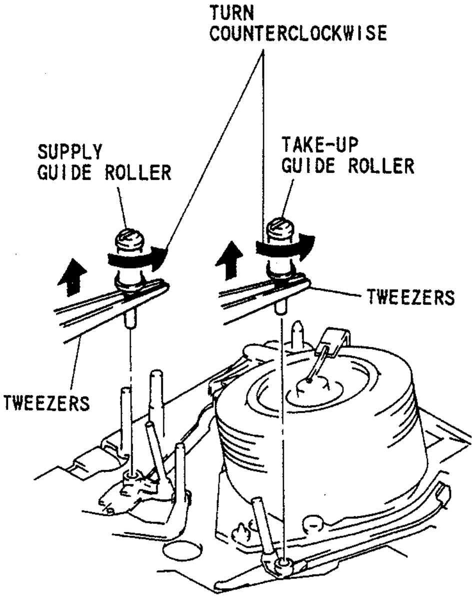

TURN COUNTERCLOCKWISE
SUPPLY GUIDE ROLLER
TAKE-UP GUIDE ROLLER
TWEEZERS
TWEEZERS

Fig. 6-16

15. Cylinder Motor Base

◆ **Components to remove previously**
1) Head Cleaning Bracket Assembly (Item 6-3)
2) Cylinder Motor Assembly (Item 6-4)

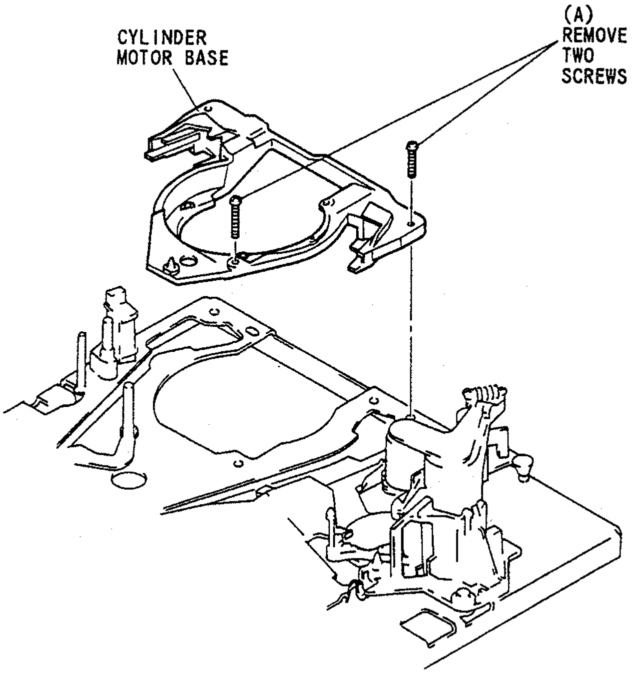

CYLINDER MOTOR BASE
(A) REMOVE TWO SCREWS

Fig. 6-17

16. Centre Pulley, FL Relay Gear (B)

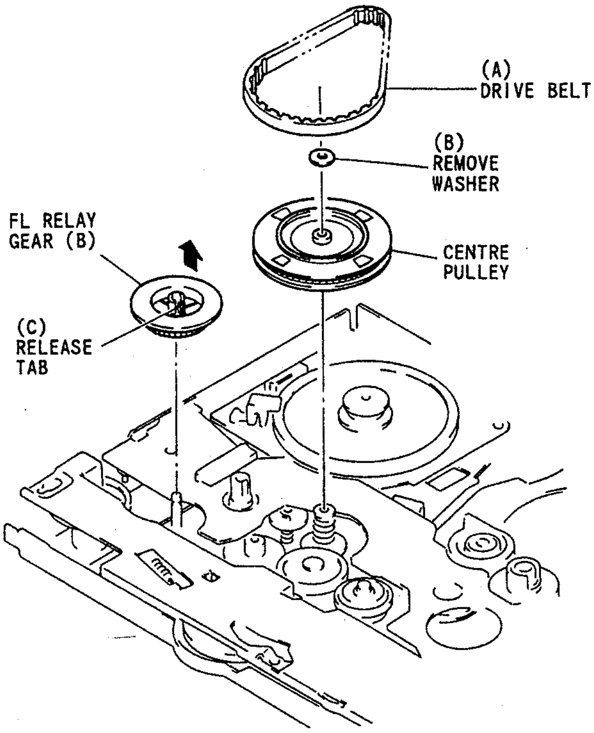

(A) DRIVE BELT
(B) REMOVE WASHER
FL RELAY GEAR (B)
CENTRE PULLEY
(C) RELEASE TAB

Fig. 6-18

17. Reel Drive Idler, Reel Gears -(L)/(R)

◆ **Components to remove previously**
1) Centre Pulley (Item 10-16)

◆ **Caution when reinstalling**
1) Install the spring between the idler and washer.

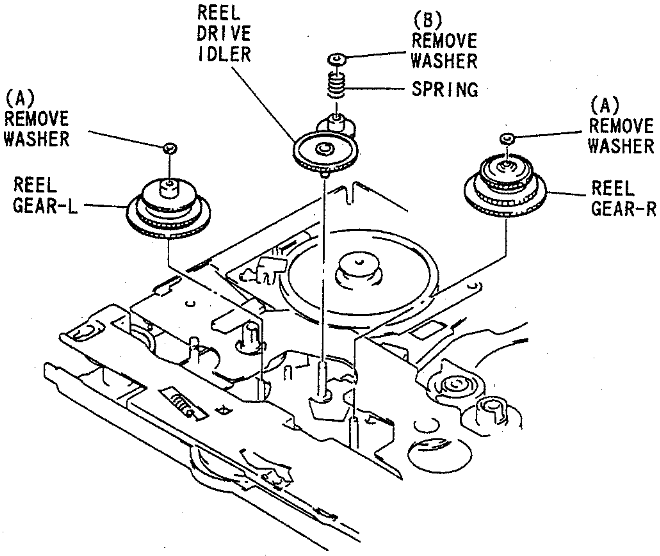

REEL DRIVE IDLER
(B) REMOVE WASHER
SPRING
(A) REMOVE WASHER
(A) REMOVE WASHER
REEL GEAR-L
REEL GEAR-R

Fig. 6-19

18. Roller Plate, Mode Gear

◆ Caution when reinstalling

1) Align mark (G) on cam gear-A and mark (F) on the mode gear. (See Fig. 6-23)
2) Align the arrow on the sensor P.C.B and arrow (No.1) on the mechanism state switch. (See Fig. 6-23)
3) With the above conditions, align mark (B) on the mechanism state switch and mark (C) on the mode gear. (See Fig. 6-23)

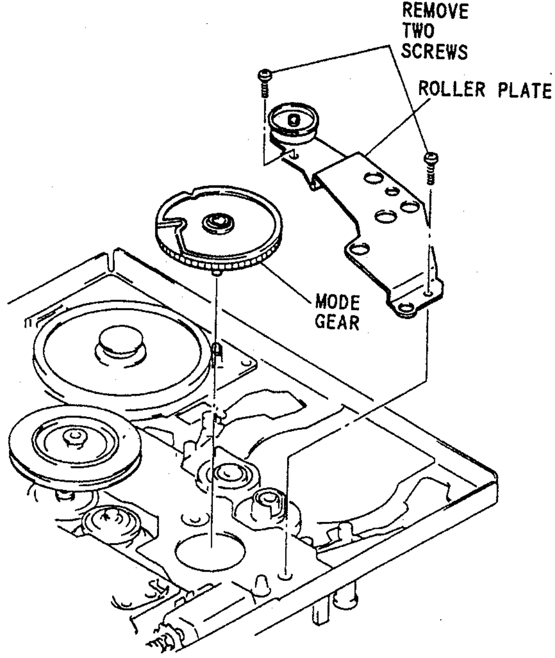

(A) REMOVE TWO SCREWS
ROLLER PLATE
MODE GEAR

Fig. 6-20

19. Gear Plate, Relay Gear, Wheel Gear, Take-up Brake Sub Arm, Latch Arm, Relay Gear -(C), Cam Gears (A)/(B)

◆ Caution when reinstalling

1) Align hole (A) in the cam gear-(A) and the hole in the chassis.
   Also align mark (G) on the cam gear-(A) and mark (F) on the mode gear. (See Fig.6-23)
2) Check that the bosses of the supply sub brake and tension drive arm are inserted into the specified positions. (See Fig. 6-22)
3) Align mark (I) in the cam gear-(B) and mark (H) on the cam gear-(A). (See Fig. 6-23)
4) Check that the boss of the pressure roller drive arm is inserted into the groove in the cam gear-(B). (See Fig. 6-22)

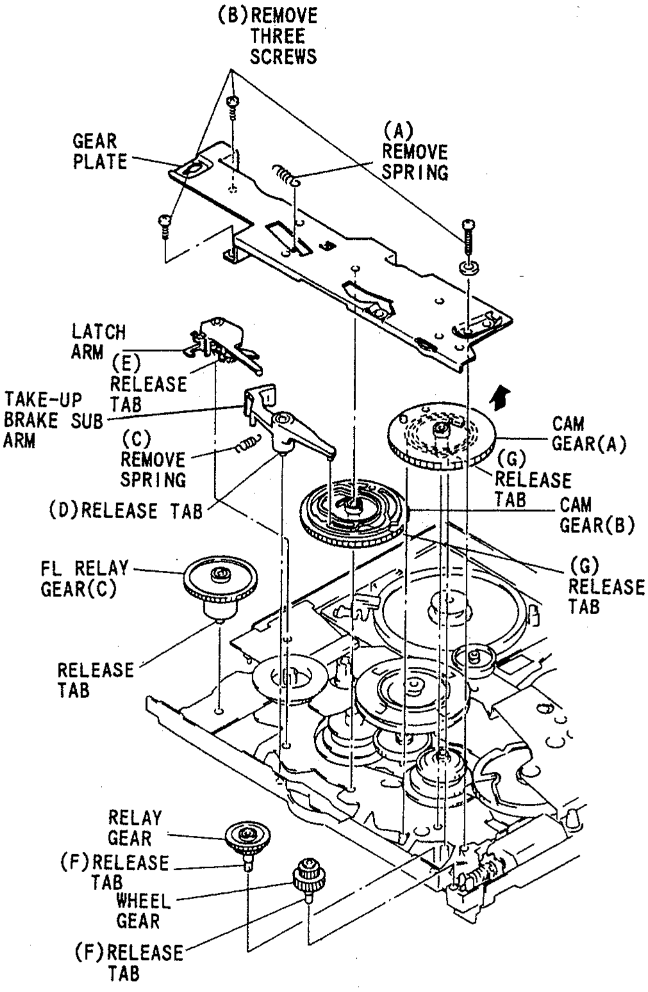

(B)REMOVE THREE SCREWS
GEAR PLATE
(A) REMOVE SPRING
LATCH ARM
(E) RELEASE TAB
TAKE-UP BRAKE SUB ARM
(C) REMOVE SPRING
(D)RELEASE TAB
CAM GEAR(A)
(G) RELEASE TAB
CAM GEAR(B)
(G) RELEASE TAB
FL RELAY GEAR(C)
RELEASE TAB
RELAY GEAR
(F)RELEASE TAB
WHEEL GEAR
(F)RELEASE TAB

Fig. 6-21

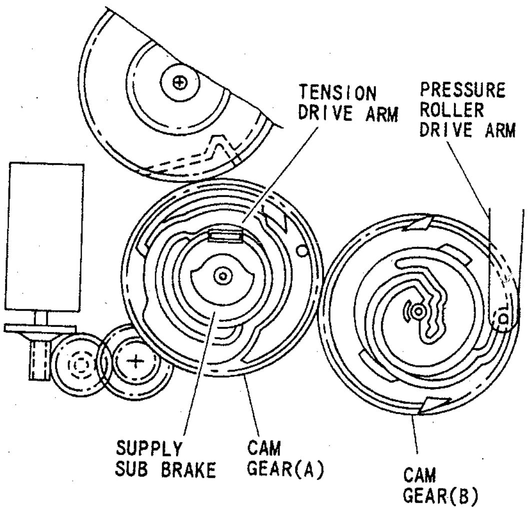

TENSION DRIVE ARM
PRESSURE ROLLER DRIVE ARM
SUPPLY SUB BRAKE
CAM GEAR(A)
CAM GEAR(B)

Fig. 6-22

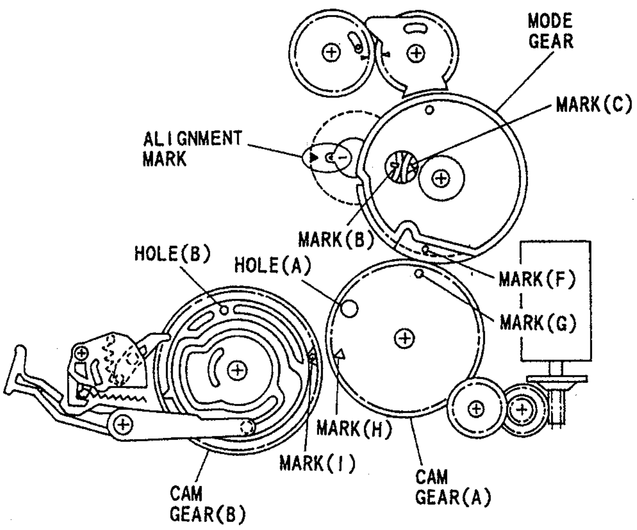

MODE GEAR
MARK(C)
ALIGNMENT MARK
MARK(B)
HOLE(B)
HOLE(A)
MARK(F)
MARK(G)
MARK(H)
MARK(I)
CAM GEAR(B)
CAM GEAR(A)

Fig. 6-23

20. Loading Motor Assembly

◆ Components to remove previously
1) FL Relay Gear (B) and Centre Pulley (Item 6-16)
2) Roller Plate, Mode Gear (Item 6-18)
3) Gear Plate, Relay Gear and Wheel Gear (Item 6-19)

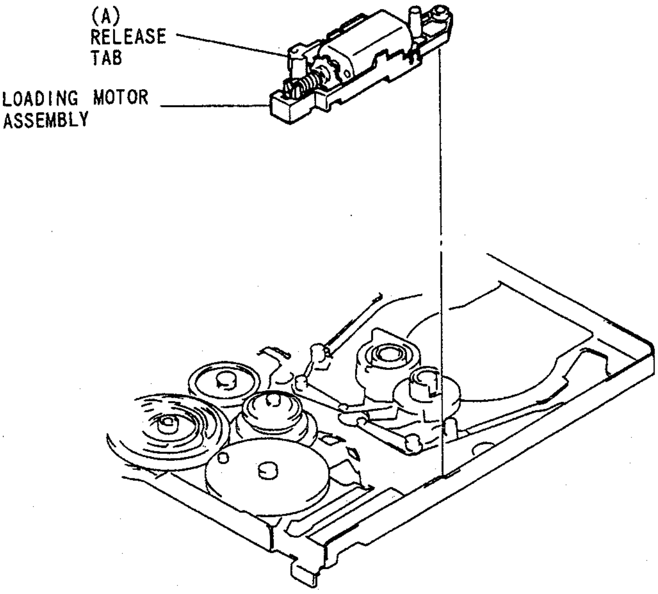

(A) RELEASE TAB
LOADING MOTOR ASSEMBLY

Fig. 6-24

21. FL Relay Gear -(A), FL Change Arm, FL Change Gear

◆ Components to remove previously
1) Roller Plate, Mode Gear (Item 6-18)
2) Centre Pulley, FL Relay Gear (B) (Item 6-16)
3) Sensor P.C.B (Item 3-6)

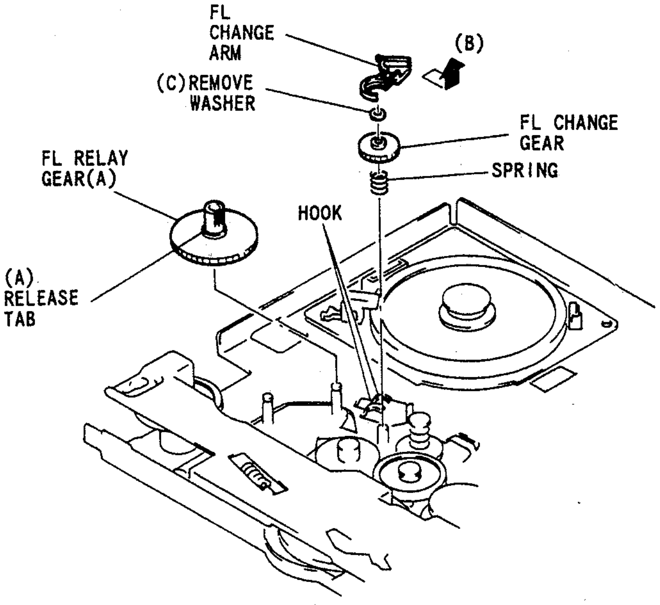

FL CHANGE ARM
(B)
(C)REMOVE WASHER
FL CHANGE GEAR
FL RELAY GEAR(A)
SPRING
HOOK
(A) RELEASE TAB

Fig. 6-25

◆ Cautions when reinstalling
Install the FL change arm by the following procedure. Do not narrow the "U"-shaped section of the arm when installing it. (See Fig. 6-26)
1) Place the arm sideways and pass it through the hole in the chassis.
2) Turn the arm to the front (to the right).
3) Push up the whole arm, taking care that section (a) of the arm does not hit the chassis and insert the bosses of the arm into the holes in the axis supports in the chassis.
4) After installing the arm, check that the arm moves smoothly.

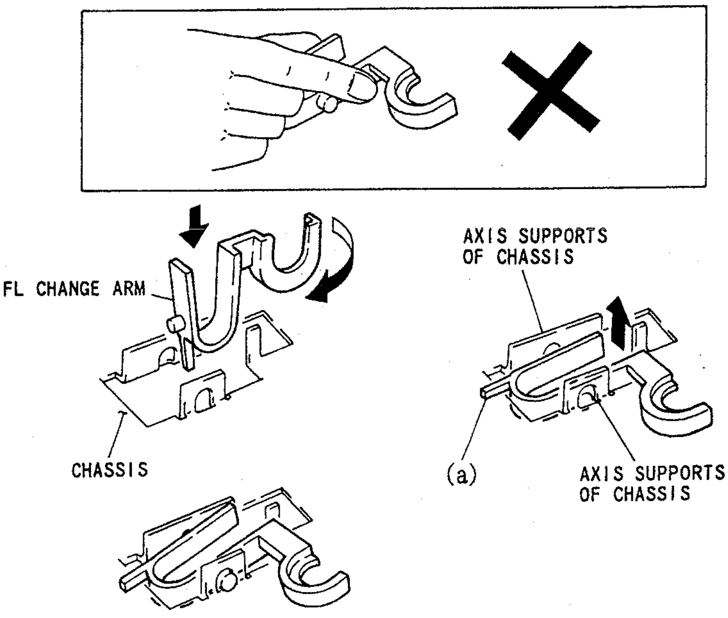

FL CHANGE ARM
AXIS SUPPORTS OF CHASSIS
CHASSIS
(a)
AXIS SUPPORTS OF CHASSIS

Fig. 6-26

22. Supply/Take-up Loading Arms

◆ **Components to remove previously**

1) Roller Plate, Mode Gear (Item 6-18)
2) Centre Pulley, FL Relay Gear (B) (Item 6-16)
3) Sensor P.C.B (Item 3-6)

◆ **Caution when installation**

1) Align the markings on each gear. (See Fig. 6-28)

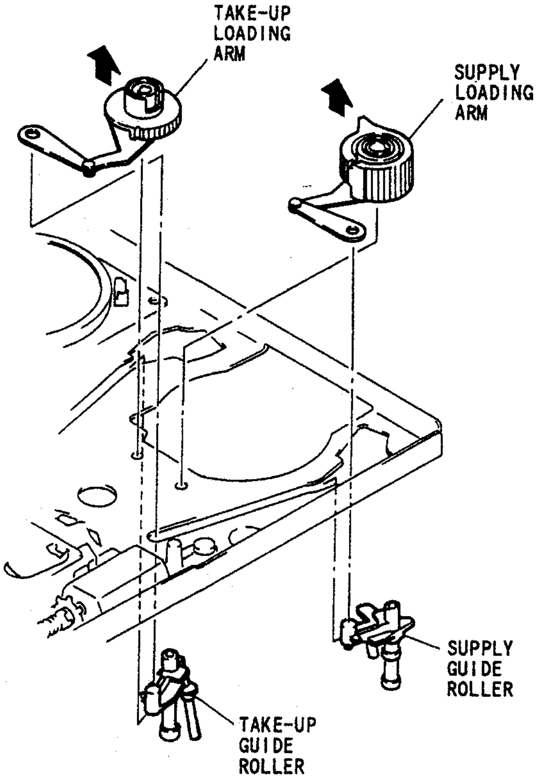

TAKE-UP LOADING ARM
SUPPLY LOADING ARM
SUPPLY GUIDE ROLLER
TAKE-UP GUIDE ROLLER

Fig. 6-27

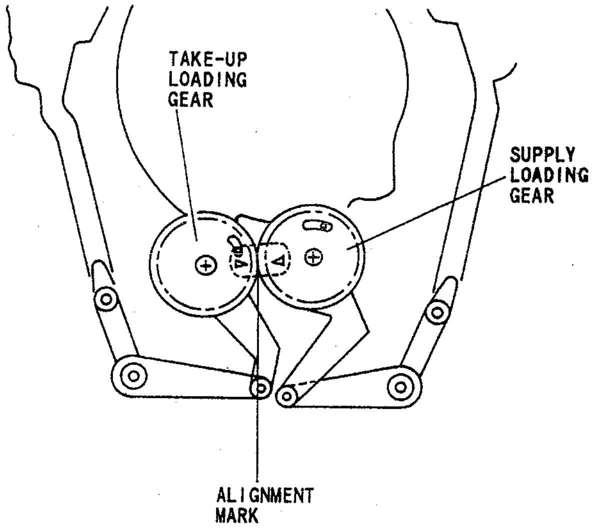

TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
ALIGNMENT MARK

Fig. 6-28

23. Torque Arm Installation Procedure

1) Insert the torque arm as shown in the figure.
2) Fit the torque arm to the upper plate as shown in Fig. 6-29.
3) Install the torque arm into the upper plate while turning the arm in the direction of the arrow.

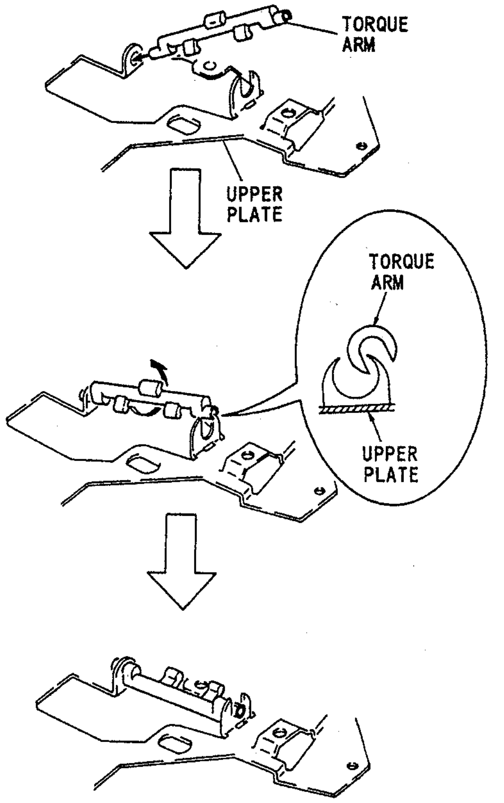

TORQUE ARM
UPPER PLATE
TORQUE ARM
UPPER PLATE

Fig. 6-29

24. Remote Control Hand Unit Cover

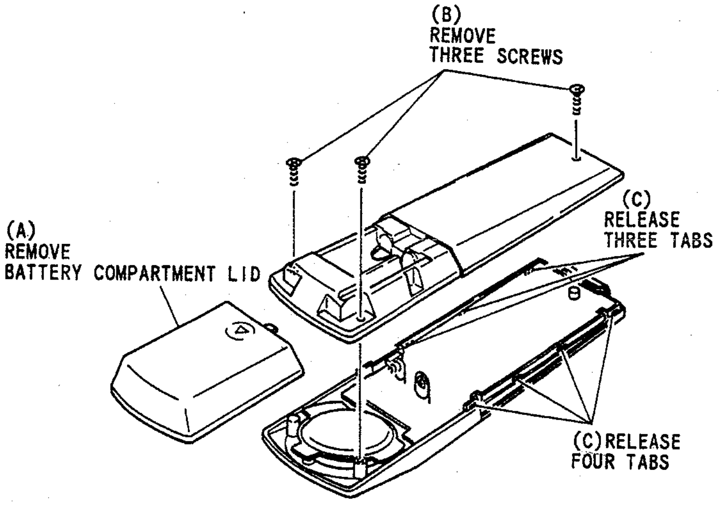
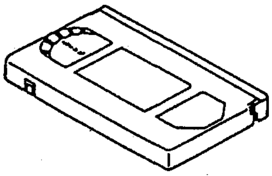
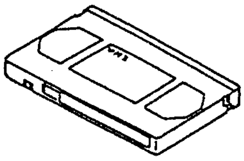
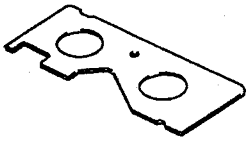
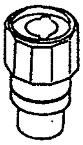
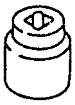
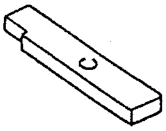

(B) REMOVE THREE SCREWS
(C) RELEASE THREE TABS
(A) REMOVE BATTERY COMPARTMENT LID
(C)RELEASE FOUR TABS

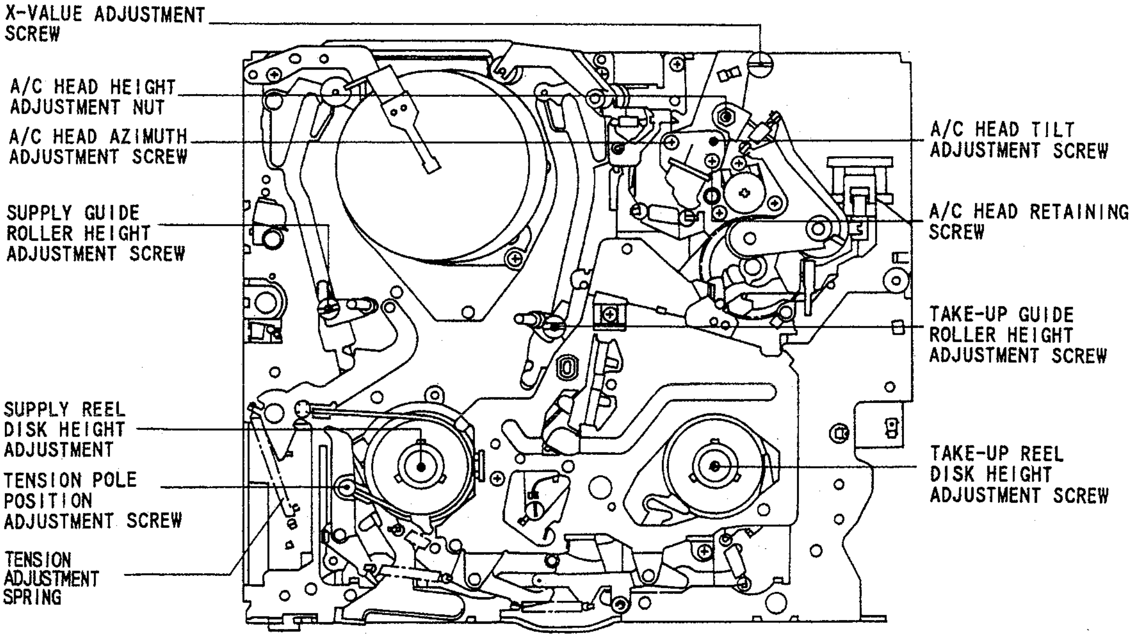
Fig. 6-30

MECHANISM ADJUSTMENT

JIGS AND TAPES FOR ADJUSTMENT

1. Back Tension Meter Parts No.7099004 	2. Alignment Tape - MH-2 - Parts No.7099052 	3. Master Plane Parts No.7099279 
4. Torque Gauge Parts No.7099039 	5. Torque Gauge Adaptor Parts No.7099035 	6. Reel Disk Height Jig Parts No.7099038 

ADJUSTMENT PARTS LOCATIONS


X-VALUE ADJUSTMENT SCREW
A/C HEAD HEIGHT ADJUSTMENT NUT
A/C HEAD AZIMUTH ADJUSTMENT SCREW
SUPPLY GUIDE ROLLER HEIGHT ADJUSTMENT SCREW
SUPPLY REEL DISK HEIGHT ADJUSTMENT
TENSION POLE POSITION ADJUSTMENT SCREW
TENSION ADJUSTMENT SPRING
A/C HEAD TILT ADJUSTMENT SCREW
A/C HEAD RETAINING SCREW
TAKE-UP GUIDE ROLLER HEIGHT ADJUSTMENT SCREW
TAKE-UP REEL DISK HEIGHT ADJUSTMENT SCREW

Top View of Mechanism

MECHANICAL PARTS ADJUSTMENT

1. Mechanism State Switch Adjustment

Purpose: To detect the mechanism state correctly and prevent malfunctions.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
· Blank tape	———	· Eject mode (with the cassette ejected)	· Mechanism state switch · Mode gear

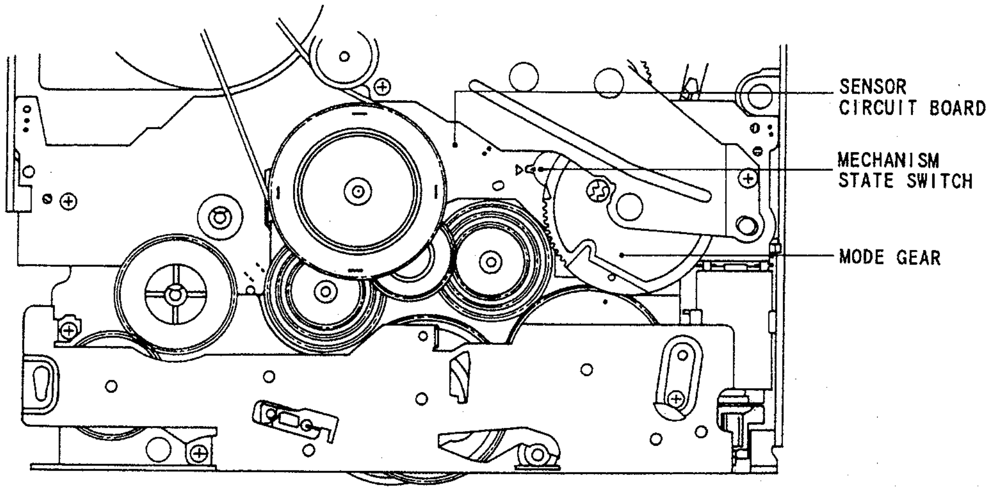
Adjustment procedure

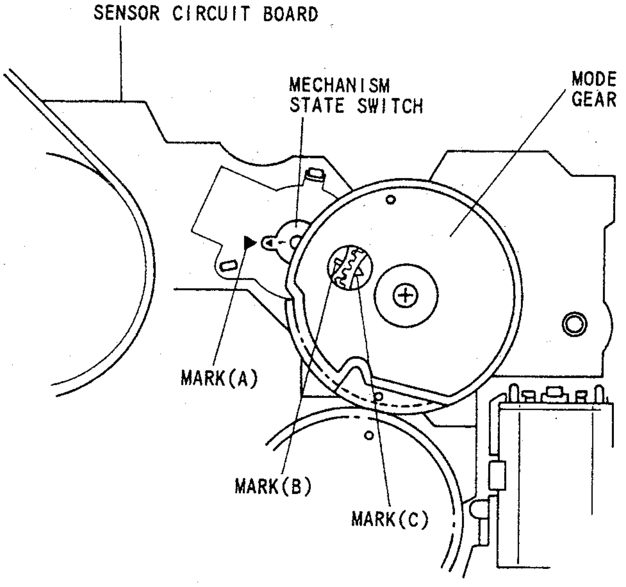
1) Check that arrow (A) on the Sensor P.C.B and the arrow of mechanism state switch indication number 1 are aligned.

2) If the above alignment is not obtained, adjust as follows.
   1. Remove the roller plate and mode gear. (See "MAIN MECHANICAL COMPONENTS REMOVAL" in CHAPTER 2.)
   2. Turn the mechanism state switch through the hole in the Sensor P.C.B to align arrow (A) on the Sensor P.C.B and the arrow of mechanism state switch indication number 1.
   3. Reinstall the mode gear so that mark (B) on the mechanism state switch and mark (C) on the mode gear are aligned.

3) Load a blank tape and perform various operations to check that loading and unloading are performed correctly.

Adjustment diagram


SENSOR CIRCUIT BOARD
MECHANISM STATE SWITCH
MODE GEAR


SENSOR CIRCUIT BOARD
MECHANISM STATE SWITCH
MODE GEAR
MARK(A)
MARK(B)
MARK(C)

TAPE TRANSPORT SYSTEM PARTS ADJUSTMENT

The tape transport system is the path from the supply reel disk passing through the video heads to the take-up reel disk. The transport system parts, especially the parts which directly come into contact with a tape, should be kept clean without scratches, dust, oil, etc.
The tape transport system has been adjusted before the unit is shipped from the factory. Therefore, when parts in the transport system are replaced, the transport system is stabilized by only adjusting the new parts correctly.

1. Reel Disk Height Adjustment

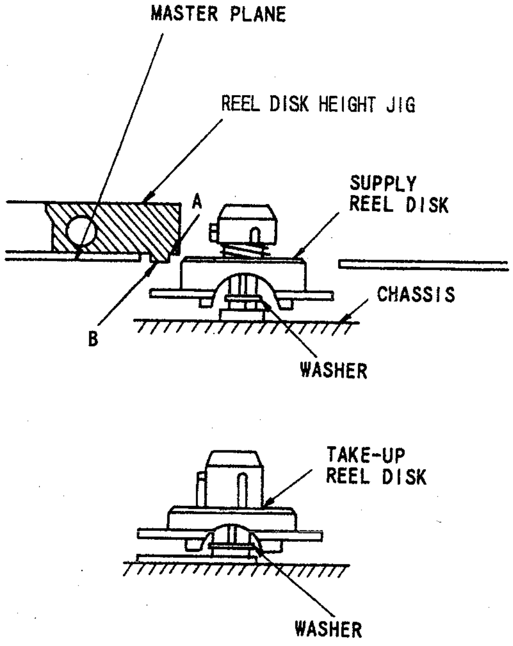
Purpose: To set the reels of the cassette to the specified height, thus determining the height of tape.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
· Master plane (Parts No.7099279) · Reel disk height jig (Parts No.7099038)	1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it.	———	· Spacers in the supply and take-up reel disks

Adjustment procedure
1) Check that the reel disk is between sections A and B of the reel disk height jig.
2) If the disk is not between sections A and B of the jig, replace the spacer (0.5mm thick) in the reel disk or adjust them.

[Caution]
When the tension arm and tension band are removed, adjust the tension pole position and tension after reinstalling them.

Adjustment diagram



2. Tension Pole Position and Tension Adjustment

Purpose: To make the tension of tape constant so that the contact between the video heads and tape is stabilized.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
Position adjustment ———	———	1) Remove the top cover. 2) Set the VTR to the loading state without inserting a cassette. (See page 3-11)	Position adjustment: Tension band holder
Tension adjustment • Back Tension Meter (Parts No.7099004)	———	Tension adjustment 3) Play the tension cassette.	Tension adjustment: Tension spring hooking position

Adjustment procedure

- Position Adjustment -

1) Hook the tension spring to position (B).
2) Insert a flat bladed screwdriver into the groove for the tension position adjustment and set the clearance between the tesion arm and chassis to 0 to +1.0mm.
3) After adjustment is completed, perform loading without inserting a cassette and recheck the tension pole position.

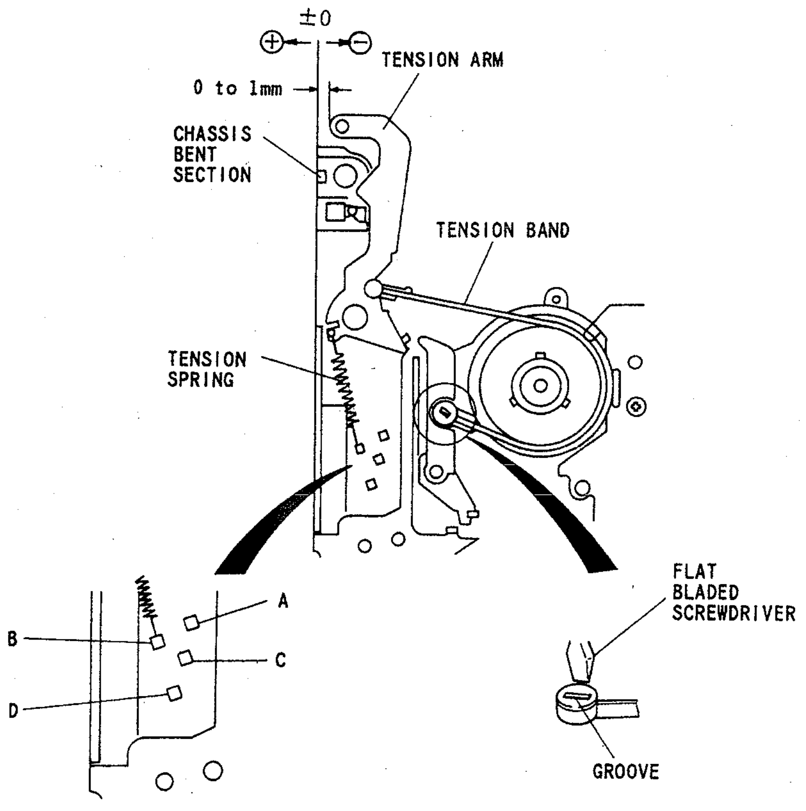
- Tension Adjustment -

1) Hook the tension spring to position (B).

● Changing the tension arm position with this adjustment varies the back-tension torque value. Check the tension arm position without loading a tape and then set the back-tension torque to the following values.

2) When the tension arm is positioned 0.5 to 1mm from the chassis bent section:
   Reading of Tension Meter: 28 to 36 g-cm (reference value)
   If the reading is higher than the reference, move the spring to position (A).
   If the reading is lower than the reference, move the spring to position (C).
3) When the tension arm is positioned 0 to 0.5mm from the chassis bent section:
   Reading of Tension Meter: 25 to 32 g-cm (reference value)
   If the reading is higher than the reference, move the spring to position (A).
   If the reading is lower than the reference, move the spring to position (C).

Adjustment diagram



3. Guide Roller Height Adjustment

Purpose: To regulate the height of tape so that the bottom of tape runs along the tape guide line on the cylinder.

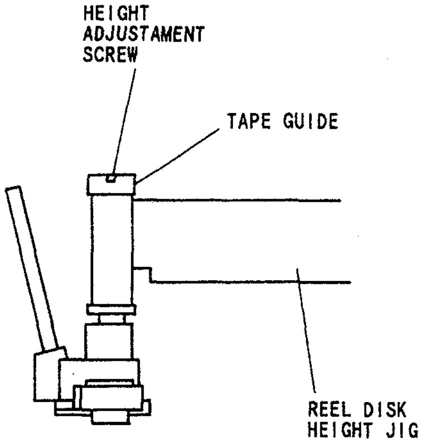
Coarse Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Master plane (Parts No.7099279) • Reel disk height jig (Parts No.7099038)	1) Remove the cassette loading mechanism. 2) Mount the master plane and place the reel disk height jig on it.	———	Height adjustment screws on the supply and take-up guide rollers

Adjustment procedure

1) Align the bottom of the guide roller's upper flange and the top of the reel disk height jig.
2) Perform the precise adjustment continuously.

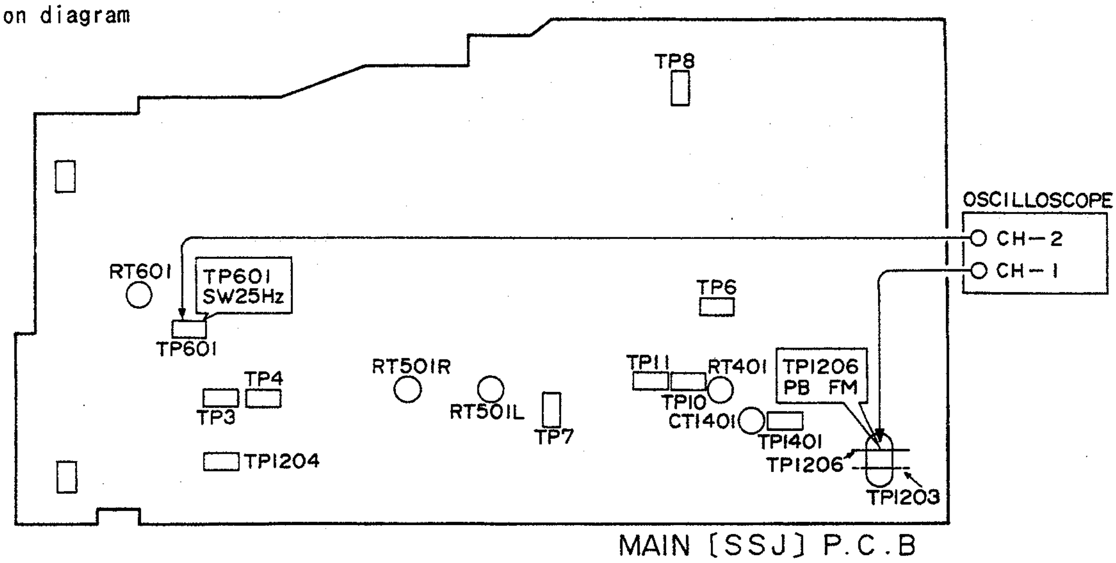
Adjustment diagram



Precise Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• CH-1: TP1206 (PB FM) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Colour bars section)	• Guide roller height adjustment screws
• Alignment tape (MH-2 Parts No.7099052)			

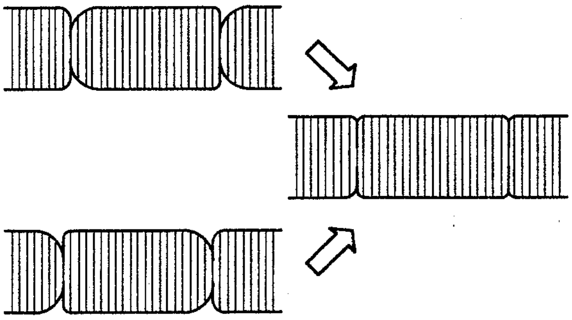
Connection diagram


TP8
OSCILLOSCOPE
CH−2
CH−1
RT601
TP601
SW25Hz
TP601
TP6
TP4
TP3
RT501R
RT501L
TP7
TP11
TP10
RT401
TP1206
PB FM
CT1401
TP1401
TP1206
TP1203
TP1204
MAIN [SSJ] P.C.B

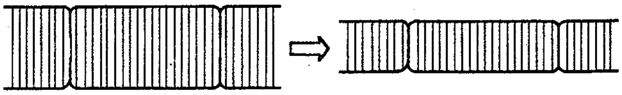
Adjustment procedure

1) Tracking control (playback) : Autotracking mode
(when this adjustment is performed after the cylinder has been replaced, set the tracking control so that the FM output is maximum.)
2) Height adjustment screw : Flatten the FM envelope.
3) Press the tracking control up and down buttons.
4) Check that the FM drops at the start and end of FM envelope are uniform.
5) Tighten the guide roller retaining screw.

Waveforms



Turn the guide roller height adjustment screw slightly to flatten the waveform.



Autotracking mode

Press the tracking control buttons.

4. Audio / Control (A/C) Head Adjustment

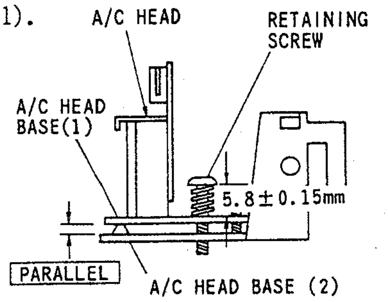
Purpose: To keep the contact between the tape and head even so the specified track is recorded and played back.

Coarse Adjustment

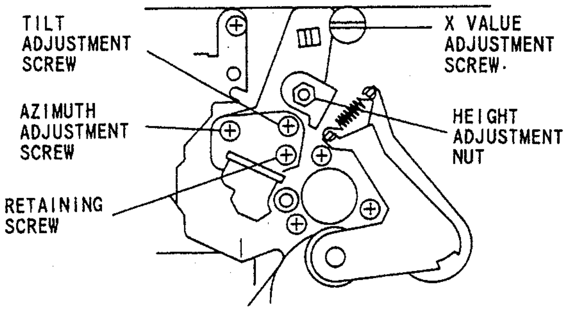
Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Blank tape	———	• Run the blank tape.	• A/C head retaining screw • Azimuth adjustment screw • Height adjustment nut • Tilt adjustment screw

Adjustment procedure/adjustment diagrams

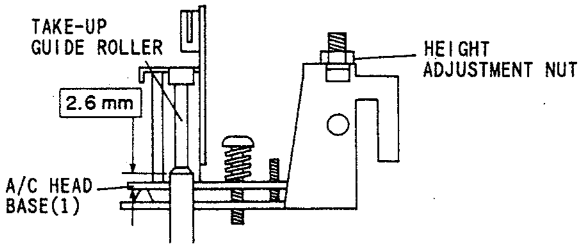
1) A/C head retaining screw: Check that the spring section of the A/C head retaining screw protrudes 5.8±0.15mm over the top of head base (1).


A/C HEAD
RETAINING SCREW
A/C HEAD BASE(1)
5.8±0.15mm
PARALLEL
A/C HEAD BASE (2)

2) Tilt adjustment hexagonal screw, azimuth adjustment screw: Make head bases (1) and (2) parallel.

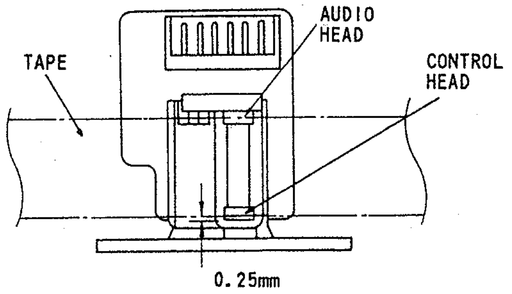

TILT ADJUSTMENT SCREW
AZIMUTH ADJUSTMENT SCREW
RETAINING SCREW
X VALUE ADJUSTMENT SCREW
HEIGHT ADJUSTMENT NUT

3) Height adjustment nut: Adjust the height of A/C head base (1) so that its top surface is approx. 2.6 mm lower than the bottom flange of the take-up guide pole.


TAKE-UP GUIDE ROLLER
2.6 mm
HEIGHT ADJUSTMENT NUT
A/C HEAD BASE(1)

4) Load a blank tape and set the VTR to the play mode.

5) Check that there is no conspicuous curling and riding over around the A/C head. If there is conspicuous curling or riding over, readjust the tilt adjustment hexagonal screw, azimuth adjustment screw and height adjustment nut. When the bottom edge of tape is 0.25 mm from the bottom edge of the control head's core, the height of A/C head is ideal.


TAPE
AUDIO HEAD
CONTROL HEAD
0.25mm

6) Perform the precise adjustment continuously.

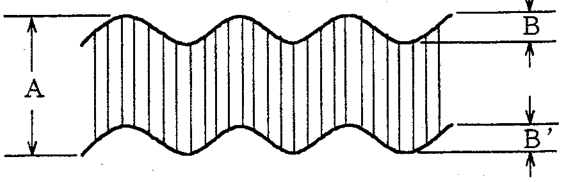
Precise Adjustment

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• AUDIO OUT	• Play alignment tape (Stairsteps section)	• Azimuth adjustment screw • Height adjustment nut • Tilt adjustment screw
• Alignment tape (MH-2 Parts No. 7099052)	———		

Adjustment procedure

1) Adjust the azimuth adjustment screw, height adjustment nut and tilt adjustment hexagonal screw slightly and alternately: Make the audio output maximum and flat (minimum fluctuations).

Waveform diagram



A: Maximum   BB': Minimum

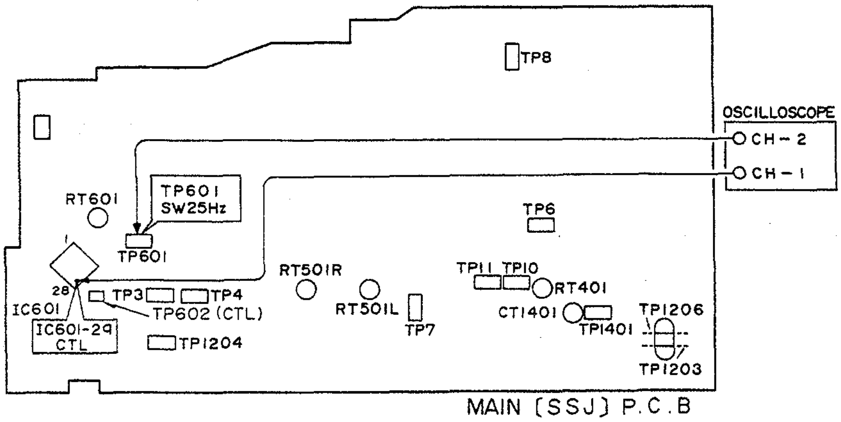
5. X-Value Adjustment

Purpose: To obtain compatibility with other VTRs.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	• CH-1: IC601-29 (CTL) or TP602 (CTL) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Stairsteps section)	• X-value adjustment screw
• Alignment tape (MH-2 Parts No. 7099052)	——		

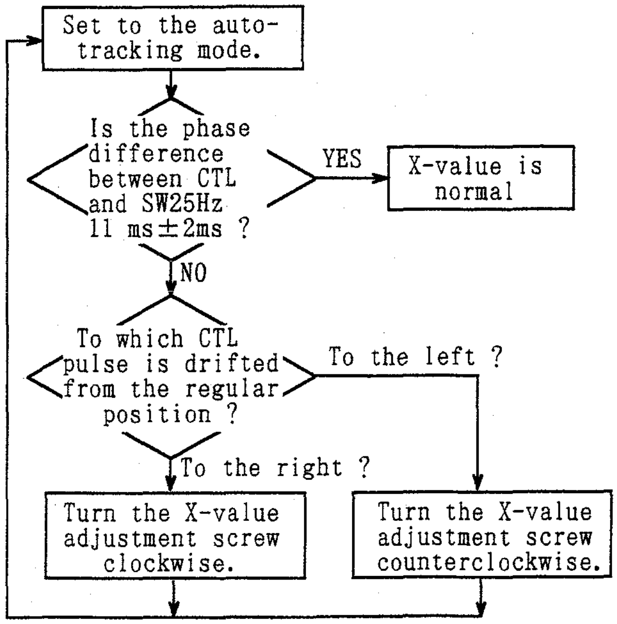
Connection diagram

Note:
TP602 (CTL)
(After the pattern No. 152105-6)

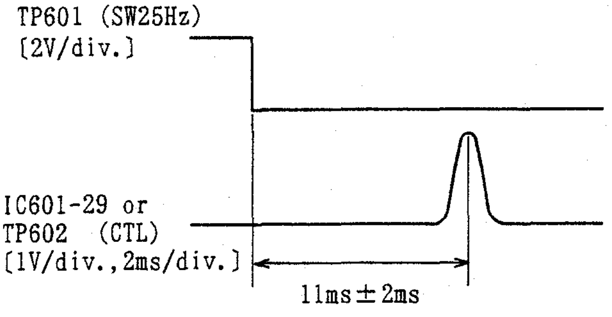

TP8
OSCILLOSCOPE
CH-2
CH-1
RT601
TP601 SW25Hz
TP601
TP6
RT501R
TP11 TP10
RT401
28
1
TP3
TP4
IC601
TP602 (CTL)
RT501L
CT1401
TP1206
IC601-29 CTL
TP7
TP1401
TP1204
TP1203
MAIN [SSJ] P.C.B

Adjustment procedure

Adjust so that the phase difference between the CTL pulse (positive pulse) and the SW25Hz signal is 11ms±2ms when the autotracking function operates.


Set to the auto-tracking mode.
Is the phase difference between CTL and SW25Hz 11 ms±2ms ?
YES
X-value is normal
NO
To which CTL pulse is drifted from the regular position ?
To the left ?
To the right ?
Turn the X-value adjustment screw clockwise.
Turn the X-value adjustment screw counterclockwise.

Waveforms



6. Adjustments After Replacing Cylinder (Video Heads)

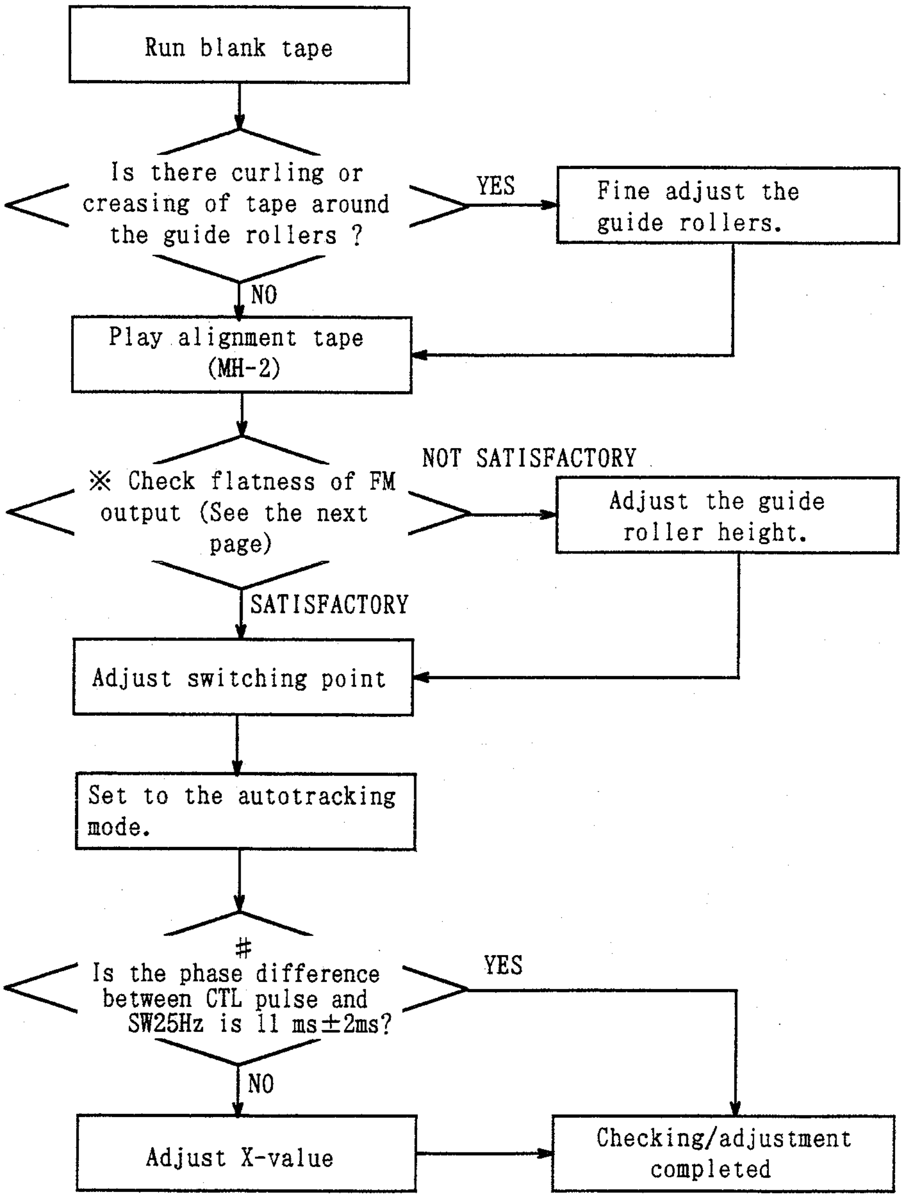
Purpose: To suppress drift in the height relative to the guide roller and to minimize the X-value after replacing the cylinder.

Test equipment/jig	Preparation for Adjustment	State of VTR	Adjustment points
• Oscilloscope	Checking the flatness • CH-1: TP1206 (PB FM) • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Run the blank tape	• Guide rollers (precise adjustment on page 3-6) • Head switching point (page 4-3) • X-value (page 3-8)
• Alignment tape (MH-2 Parts No.7099052)		• Play alignment tape (Stairsteps section)	
• Blank tape			

Checking/adjustment procedure

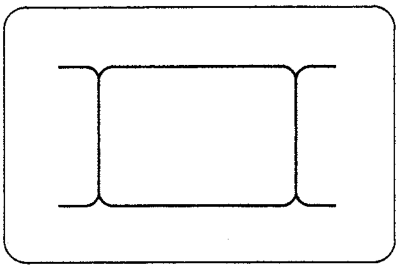
NOTE-1 : Connect test equipment referring to connection diagram on page 3-6 when checking the item marked ※.

NOTE-2 : Connect test equipment referring to connection diagram on page 3-8 when checking the item marked #.

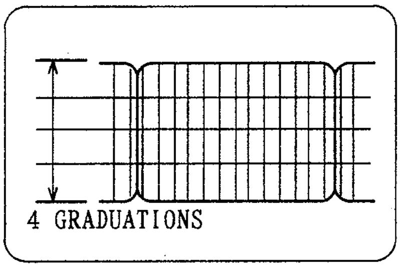

Run blank tape
Is there curling or creasing of tape around the guide rollers ?
YES
Fine adjust the guide rollers.
NO
Play alignment tape (MH-2)
※ Check flatness of FM output (See the next page)
NOT SATISFACTORY
Adjust the guide roller height.
SATISFACTORY
Adjust switching point
Set to the autotracking mode.
#
Is the phase difference between CTL pulse and SW25Hz is 11 ms±2ms?
YES
NO
Adjust X-value
Checking/adjustment completed

Checking procedure of the flatness and fluctuations of FM output and waveform diagrams

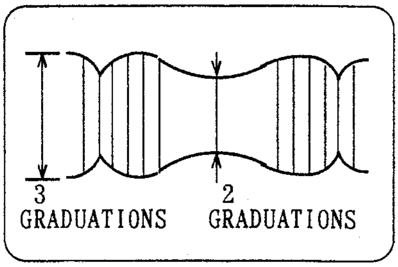
1) Set to the autotracking mode.



2) Fine tune the voltage level range of the oscilloscope to set the FM output to 4 graduations.



3) Press the tracking control buttons to set the maximum amplitude of the FM output to 3 graduations.
4) Check that the minimum amplitude is more than 2 graduations.



5) Check that the level fluctuations between the maximum and minimum amplitudes are less than 13%.

7. Tension/Torque Checks

Purpose: It is necessary to check the tension, torque and compression force at the tape take-up section and moving section to make the tape running smooth and satisfy the basic performance of the VTR. Check these if the tape running is not smooth or the tape speed is abnormal.

Test equipment/jigs	State of VTR
· Torque gauge · Torque gauge adaptor	· Set the VTR to each operation mode without inserting a cassette. (See page 3-11)

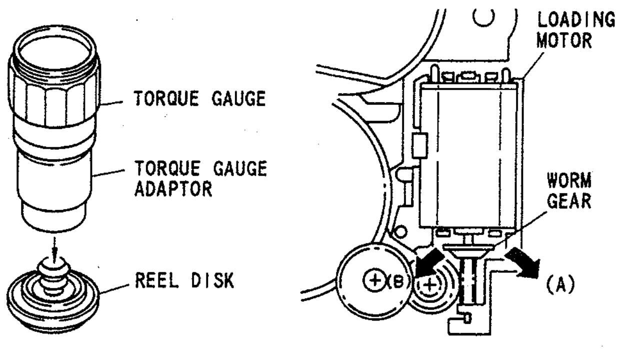
Item	VTR operation mode	Measured reel	Measured value
Main brake torque	Stop (Note)	Supply & take-up reels	100 ~ 250 g·cm
Slack removal torque	Unloading	Supply reel	120 ~ 250 g·cm
Fast forward torque	Fast forward	Take-up reel	400 g·cm or more
Rewind torque	Rewind	Supply reel	400 g·cm or more
Take-up torque	Play	Take-up reel	40 ~ 70 g·cm
Back-tension torque	Fast forward/Rewind	Supply and take-up reel	3 ~ 13 g·cm
REV. torque	Rev.	Supply reel	160 ~ 350 g·cm
Reverse play torque	Reverse play	Supply reel	160 ~ 250 g·cm
Slow torque	Slow	Take-up reel	25 ~ 70 g·cm

Checking method

The values are measured using a torque gauge and torque gauge adaptor with the torque gauge fixed.

Note: Turn the worm gear in the direction of arrow (A) to shift the mechanism state switch indication number to "3". Then turn the worm gear in the direction of arrow (B) so the main brakes are applied to the reel disks.

Adjustment diagram



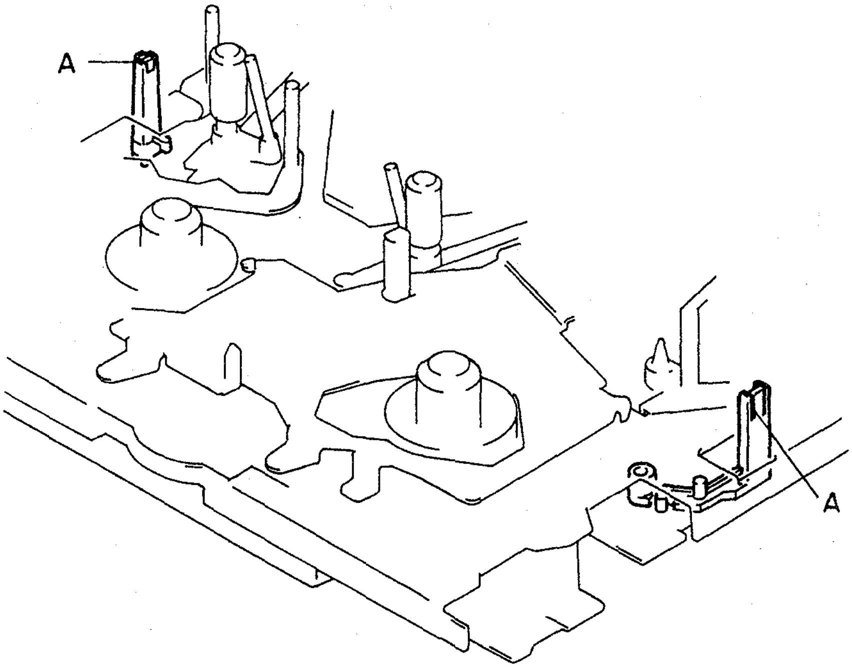
8. To Set the VTR to the Loading State without Inserting a Cassette

1) Remove the top cover and front panel.
2) Remove the cassette loading mechanism.
3) Unplug the mains lead form the AC outlet.
4) Cover the supply and take-up end sensors (sections A in the figure below) with black masking tape, etc. to shut off the light.
5) Plug the mains lead into the AC outlet.
6) Turn the VTR on.
   The VTR can accept the inputs of each mode in this state. However, the rewind operation cannot be performed for more than a few seconds because the take-up reel disk is in the stop state and reel pulses cannot be detected.

[Cautions]
Always return the VTR to the original state in the following order after the above operations have been performed.

1) Remove the masking tape, etc. from the supply and take-up end sensors.
2) Unplug the mains lead from the AC outlet to reset the main microprocessor.

Adjustment diagram



MAINTENANCE/INSPECTION PROCEDURE

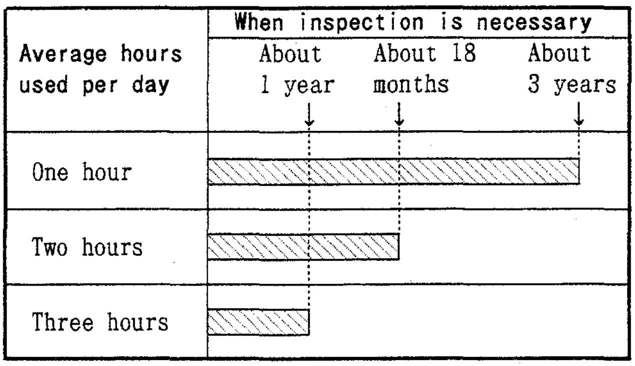
1. Required Maintenance

The recording density of a VTR is much higher than that of an audio tape recorder. VTR components must be very precise, at tolerances of 1/1000 mm, to ensure compatible with other VTRs. If any of these components are worn or dirty, the symptoms will be the same as if the part is defective. To ensure a good picture, periodic inspection and maintenance, including replacement of worn-out parts and lubrications, is necessary.

2. Scheduled Maintenance

Schedules for maintenance and inspection are not fixed because they are greatly according to the way in which the customer uses the VTR, and the environment in which the VTR is used. But, in general home use, a good picture will be maintained if the inspection and maintenance is done every 1,000 hours. The table below shows the relation between time used and inspection period.
Refer to Table 4 in item 7 for the parts which must be maintained and inspected and details of the maintenance/inspection achedules.

Table 1



3. Check before starting Repairs

The following faults can be remedied by cleaning and oiling. Check the need for lubrication and the conditions of cleanliness in the unit. Check with the customer to find out how often the unit is used. If from that you determine that the unit is ready for inspection and maintenance, check the following parts.

Table 2

Phenomenon	Inspection Location
Poor S/N, no colour	Dirt on video head or worn video head
Tape does not run or tape is slack	Dirt on pressure roller, reel belt or flywheel belt
Vertical jitter, horizontal jitter	Dirt on video head or in tape transport system
Colour beats	Dirt on full-erase head
Low volume or sound distorted	Dirt on audio/control head

4. Tools Needed for Inspection and Maintenance

(1) Head cleaning kit
(2) VTR oil kit
(3) Alcohol
(4) Gauze

Table 3 Locations for Greasing and Oiling using the Kit

Name	Oil or Greasing Location
Sonic Slidas Oil (#1600)	Oil low-speed rotating sections
Molicoat (PG-641)	Lubricate metal or molded sections under light load
Lock paint	Fix adjustment screws

The above oils and greases are in the kit prepared especially for VTR maintenance. Use this kit for lubrication.

5. Maintenance Procedures

5-1 Cleaning

(1) Cleaning video head

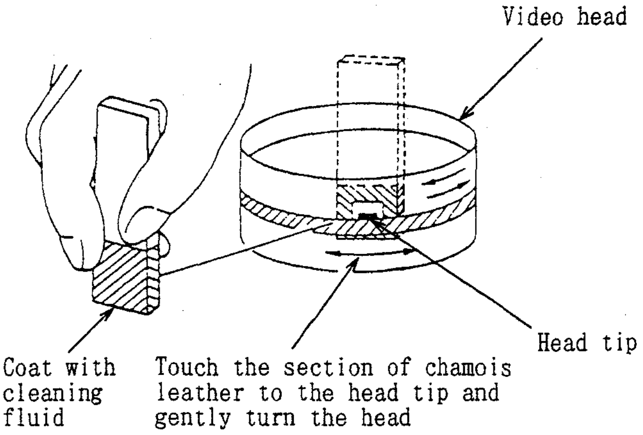
First use a cleaning tape. If dirt on head is too stubborn to remove by tape, use the cleaning kit. Moisten the cleaning stick with cleaning fluid at the point indicated. Touch the stick to the head tip and gently turn the head (rotating cylinder) to the right and left. (Do not move the stick vertically and make sure that only the chamois leather on the stick comes into contact with the head. Otherwise, the head may be damaged.) Thoroughly dry the head. Then test run a tape. If cleaning fluid remains on the video head, the tape may be damaged when it comes into contact with the head surface.

(2) Cleaning the tape transport system and drive system, ect.

Wipe with gauze moistened with alcohol.

Notes: 1) The tape transport system is the system which comes into contact with the running tape. The drive system consists of those parts which run the tape.

2) Make sure that during cleaning you do not touch the tape transport system with the tip of a screwdriver and that no force is applied to the system that could deform it.


Video head
Head tip
Coat with cleaning fluid
Touch the section of chamois leather to the head tip and gently turn the head

5-2 Lubrication

(1) *Guidelines for lubricating with oil*
Use the oiler to apply one or two drop of Sonic Slidas oil. Make sure not to use too much oil because it may spill over or leak out coming into contact with rotating parts and causing slippage or other problems. If too much oil is applied, wipe clean with alcohol.

(2) **Periodic oil lubrication**
Oil specified locations every 1,000 hours.

5-3 Greasing

(1) **Greasing guidelines**
Apply grease Molicoat, with a stick or brush. Do not use excess grease. It may come into contact with the tape transport or drive system. Wipe any excess and clean with gauze moistened with alcohol.

(2) **Periodic greasing**
Grease specified locations every 5,000 hours.

6. Inspection Locations

Phenomenon	Inspection Location	Replacement	
Colour beats	Dirt on full erase head		→ ①
Poor S/N, no colour	Dirt on video heads	○	→ ②
Vertical jitter	Dirt on video heads Dirt in tape transport system		→ ③
Low volume, sound distorted	Dirt on audio/ control head	○	→ ④
Tape does not run. Tape is slack.	Dirt on pressure roller	○	→ ⑤

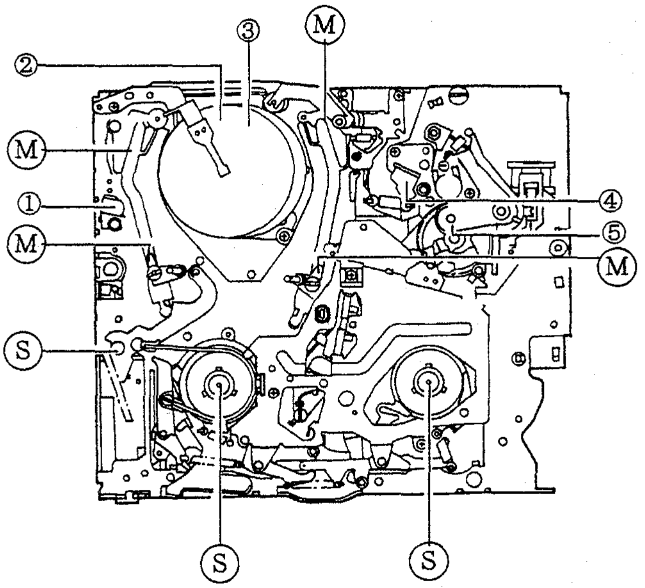


Fig. 1 Top View of Mechanism

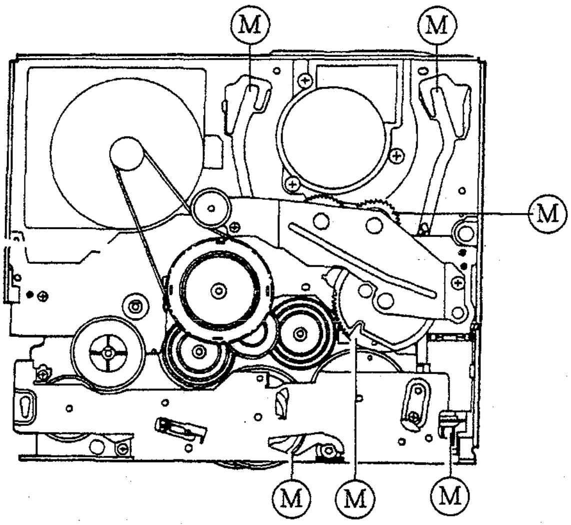


Fig. 3 Bottom View of Mechanism

Ⓢ : Sonic Slidas oil (oil locations)
Ⓜ : *Molicoat (grease locations)*

Note:
If locations marked with "○" do not operate normally after cleaning, they are worn. Replace.
See the EXPLODED VIEWS at the end of this manual as well as the above illustrations for the sections to be lubricated and greased.

7. Parts to be Maintained/Inspected and Maintenance/Inspection Schedules

Caution: The following table does not apply to all the units. The maintenance/inspection schedules depend on the way in which the unit is used and the environment in which it is used.

Table 4

Parts and point of Maintenance	1000h	2000h	3000h	4000h	5000h
Video Head (Upper Cylinder)	C／R	C／R	C／R	C／R	C／R
Audio/Control (A/C) Head	C	C／R	C	R	C
Full Erase (FE) Head	C	C	C	R	C
Supply Guide Roller	C	C	C／R	C	C
Take-up Guide Roller	C	C	C／R	C	C
Tension Band		R		R	
Tension Arm	C	C	C	C	C
Supply Reel Disk		C		C	
Take-up Reel Disk		C		C	
Pressure Roller Arm	C	R	C	R	C
Drive Belt		C		C	
Capstan Motor	C	R	C	R	C
Loading Motor				R	
Cylinder Motor		R		R	
Mechanisim State Switch				(R)	
Reel Gear L		R		R	
Reel Gear R		R		R	
Reel Drive Idler		R		R	
Inclined Guide of Supply Guide Roller Base	C	C	C	C	C
Inclined Guide of Take up Guide Roller Base	C	C	C	C	C
Impedance Roller	C	C	C	C	C
Tape Guides (Guide Poles)	C	C	C	C	C
Lead of Lower Cylinder	C	C	C	C	C
Take-up Main Brake	C	C／R	C	C／R	C
Supply Main Brake	C	C／R	C	C／R	C
Head Cleaning Roller Assy.					(R)
Shaft of Supply Reel Disk		S		S	
Shaft of Take-up Reel Disk		S		S	
Shaft of Reel Gear L		S		S	
Shaft of Reel Gear R		S		S	
Shaft of Center Pulley		S		S	
Shaft of Pressure Roller Arm		M		M	
Guide Roller Base sliding part of Chassis					M
Contacting part of Cylinder Base and tip of Guide Roller Base					M
Contacting part of Tension Arm and Supply Guide Roller Base					M
Sliding part of chassis, Upper Plate and Pressure Roller Drive Arm					M

R : Part replacement
C : Cleaning
S : Oil (Sonic Slidas Oil) refilling
M : Grease (Molicoat) refilling

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment and tapes necessary for adjustment

1) Dual-trace oscilloscope
2) Colour bar generator
3) VTVM
4) DC voltmeter
5) Frequency counter
6) CR oscillator
7) Monitor TV
8) Alignment tapes
   - MH-2 : Parts No. 7099052
   - 36HMAFE-3-1: Parts No. 7099175 (Hi-Fi Alignment tape)
9) Blank tape

Cautions on adjustments

1) If there are no special instructions, the following conditions apply.
   - Oscilloscope probe: 10:1
   - Oscilloscope synchronization: Internal sync
   - Earth of test equipment: TP 6 (GND) on Main P.C.B
   - Tracking control: Electrical centre (Press the TRACKING UP (▲) and DOWN (▼) buttons simultaneously to set tracking to the centre.)
   - Slow tracking control: Electrical centre (Unplug the mains lead from the AC outlet)
2) When making more than one adjustment, perform the adjustments in the order listed.
3) Be sure to perform the following adjustments after replacing IC902 (EAROM) on the main circuit board.
   - Reverse Slow Tracking Preset
   - Forward Slow Tracking Preset
   - Level Meter Adjustment

Servicing positions

The circuit boards can be set to the servicing positions as follows when servicing and adjusting the VTR.

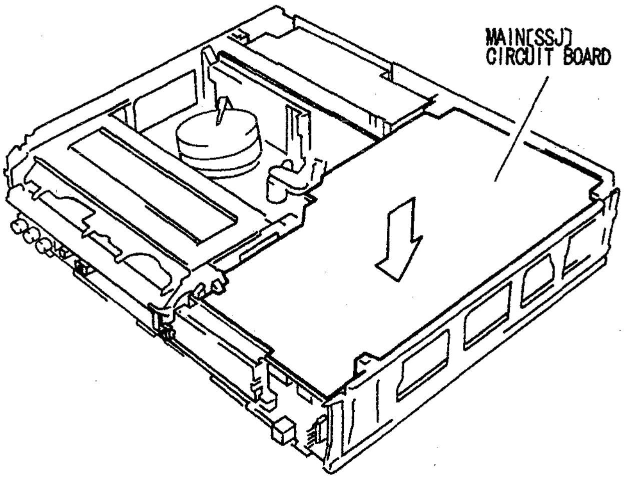


Fig. 1

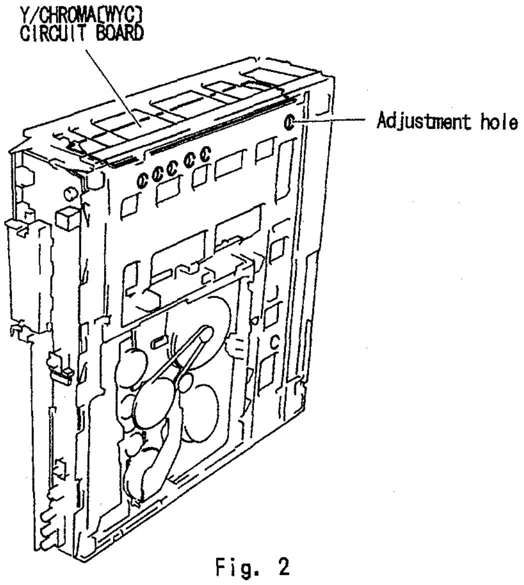


Fig. 2

Resetting the microprocessors

The microprocessors used in this unit can be reset by pressing switch (S729) on the Timer Circuit Board.

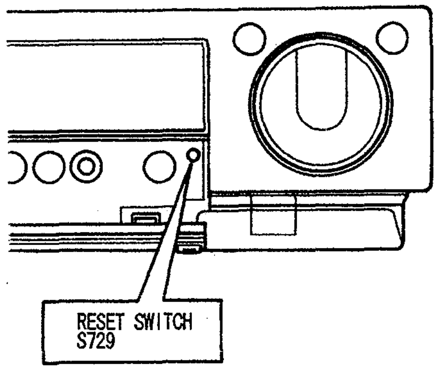


Fig. 3

Adjustment Parts Locations

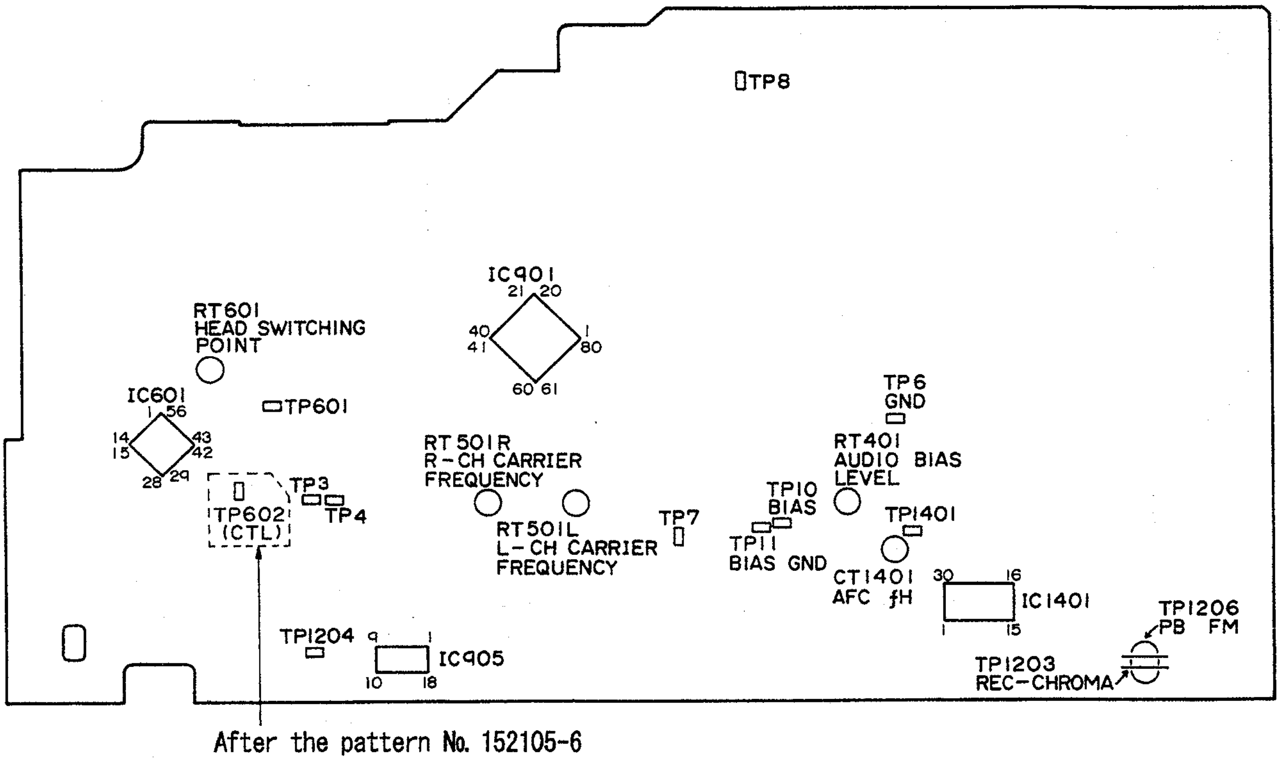

TP8
IC901
21 20
40 41
1 80
60 61
RT601
HEAD SWITCHING
POINT
IC601
1 56
14 15
43 42
28 29
TP601
TP602
(CTL)
TP3
TP4
RT501R
R-CH CARRIER
FREQUENCY
RT501L
L-CH CARRIER
FREQUENCY
TP7
TP6
GND
RT401
AUDIO BIAS
LEVEL
TP10
BIAS
TP11
BIAS GND
TP1401
CT1401
AFC fH
30 16
1 15
IC1401
TP1206
PB FM
TP1203
REC-CHROMA
TP1204
9 1
10 18
IC905
After the pattern No. 152105-6

Fig. 1 Main [SSJ] Circuit Board (Solder Side)

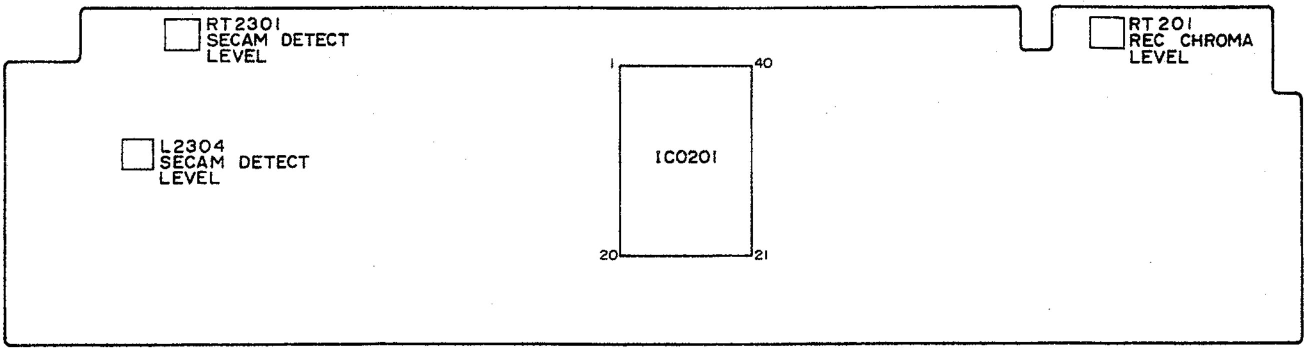

RT2301
SECAM DETECT
LEVEL
L2304
SECAM DETECT
LEVEL
1
40
IC0201
20
21
RT201
REC CHROMA
LEVEL

Fig. 2 Y/Chroma [WYC] Circuit Board
(Components Side)

1. SERVO CIRCUIT ADJUSTMENTS

1. Head Switching Point Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
To set the video head switching point during play to approximately the centre where the CH-1 and CH-2 envelopes overlap each other.	• The vertical sync signal is degraded and vertical jitter occurs. • Switching noise appears across the bottom of the screen.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Oscilloscope	• CH-1: VIDEO OUT • CH-2: TP601 (SW25Hz) [Main P.C.B]	• Play alignment tape (Stairsteps Section) • Tracking control: Electrical Centre	• RT601 (SWITCHING POINT)
• Alignment tape (MH-2 Parts No.7099052)			

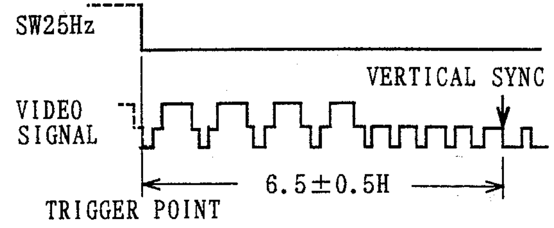
Adjustment Procedure

Vertical sync signal:
Set to 6.5H±0.5H from the trailing edge (trigger position) of the SW25Hz pulse.

<Settings of oscilloscope>

- Trigger with CH-2.
- Set the sync slope to "−".

Waveforms



2. Vert. Sync Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
Change timing for adding vertical drive pulse and suppress vertical jitter in picture during still play.	Vertical jitter occurs during still play.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Monitor TV	• VIDEO OUT or RF OUT	• Record colour bar signal and play it back with this unit in STILL mode.	• TRACKING UP (Remote control) • TRACKING DOWN (Remote control)
• Colour bar generator (or receive TV programme)	• VIDEO IN		
• Blank tape			

Adjustment Procedure

1) Tape speed : SP
2) TRACKING BUTTONS : Suppress vertical jitter in picture.
3) Tape speed : LP
4) TRACKING BUTTONS : Suppress vertical jitter in picture.

3. Reverse Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
To adjust the timing to generate a brake pulse for the capstan motor during reverse slow play and minimize noise.	Noise appears in the reverse slow motion picture which is difficult to see.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
• Monitor TV	• VIDEO OUT or RF OUT	• Slow Tracking control: Electrical Centre	• TRACKING UP (Remote control) • TRACKING DOWN (Remote control)
• Colour bar generator	• VIDEO IN		
• Blank tape			

Adjustment Procedure

LP Reverse Slow Tracking Preset

1) Tape speed : LP
2) Record colour bar signals for several minutes.
3) Playback the section recorded in step 2).
4) Forcibly set the VTR to the reverse slow mode. Press the CH-▲ button of the VTR and the TRACKING (▲) and (▼) buttons of the remote control simultaneously during still play.
5) TRACKING BUTTONS: Distribute noise evenly in the upper and lower halves of the monitor screen.
6) Press the PLAY button to return the VTR to the play mode. When returned to the play mode, the preset data is written to the EAROM.

SP Reverse Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 6) of the LP Slow Tracking Preset Adjustment.

4. Forward Slow Tracking Preset Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: To adjust the timing to generate a brake pulse for the capstan motor during forward slow play and minimize noise.

Fault: Noise appears in the forward slow motion picture which is difficult to see.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Monitor TV	· VIDEO OUT or RF OUT	· Slow Tracking control: Electrical Centre	· TRACKING UP (Remote control) · TRACKING DOWN (Remote control)
· Colour bar generator	· VIDEO IN		
· Blank tape			

Adjustment Procedure

LP Forward Slow Tracking Preset

1) Tape speed : LP
2) Record colour bar signals for several minutes.
3) Playback the section recorded in step 2).
4) Forcibly set the VTR to the forward slow mode. Press the CH-▲ button of the VTR and the TRACKING (▲) and (▼) buttons of the remote control simultaneously during play.
5) TRACKING BUTTONS: Eliminate the noise from the monitor screen.
6) Press the PLAY button to return the VTR to the play mode. When returned to the play mode, the preset data is written to the EAROM.

SP Forward Slow Tracking Preset

Switch the tape speed to SP and perform the same as in steps 2) to 6) of the LP Slow Tracking Preset Adjustment.

2. Y/CHROMA CIRCUIT ADJUSTMENTS

1. Rec Chroma Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the record chroma levels to the optimum values.

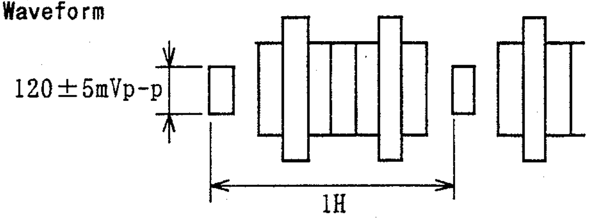
Fault:
- Diamond beats occur in the played back picture or colouring becomes poor.
- The played back picture becomes dark and noise increases, or the picture glares and becomes whitish.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Oscilloscope	· TP1203	· REC mode	· RT201
· Colour bar generator	· VIDEO IN		
· Blank tape			

Adjustment Procedure

1) RT201 : Set the record chroma level to 120±5mVp-p.

Waveform



2. Secam Detect. Level Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the Secam detect level to the specified value.

Fault: During automatic discrimination PAL and SECAM are discriminated incorrectly.

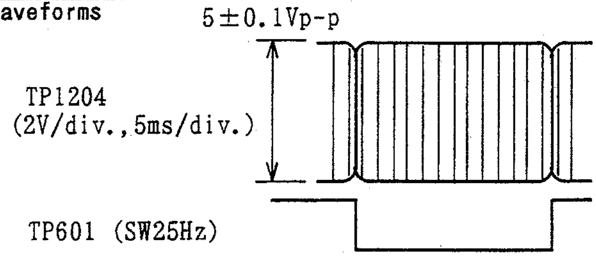
Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Oscilloscope	· CH-1: TP1204 · CH-2: TP601 (SW25Hz)	· REC mode	· RT2301 · L2304
· Colour bar generator (SECAM)	· VIDEO IN		
· Blank tape			

Adjustment Procedure

1) RT2301: Adjust the amplitude of the waveform to 5.0±0.1Vp-p.
2) If the above value cannot be obtained, adjust L2304.

⟨Oscilloscope Setting⟩
- Trigger with CH-2

Waveforms



3. AUDIO CIRCUIT ADJUSTMENTS

1.Carrier Frequency Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio carrier frequency to the specified value.

Fault:
- Compatibility with tapes recorded by another VTR cannot be obtained.
- Hi-Fi audio is not played back.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Frequency counter	· TP 4 (when adjusting RT501L) · TP 3 (when adjusting RT501R)	· REC mode	· RT501L (L-CH) · RT501R (R-CH)
· Blank tape			

Adjustment Procedure

1) RT501L : The frequency counter reads 1400kHz±4kHz at TP 4.
2) RT501R : The frequency counter reads 1800kHz±4kHz at TP 3.

2. Audio Bias Level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set audio bias during recording to optimum level.

Fault:
- Bias too High: High-frequensy response deteriorates.
- Bias too Low: Sound tends to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· VTVM	· TP 10 (BIAS) · TP 11 (BIAS GND)	· Non-signal recording	· RT401
· Blank tape			

Adjustment Procedure

RT401: The VTVM reads 3.1mVrms±0.1mVrms.

4. OSD CIRCUIT ADJUSTMENT

1.AFC fH Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose: Set the AFC VCO to the specified value.

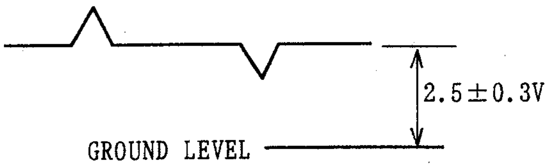
Fault: OSD characters are flowed.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· Oscilloscope	· CH-1: TP1401 [Main P.C.B]	· EE mode	· CT1401
· Colour bar genarator	· VIDEO IN		

Adjustment Procedure

1)Adjust to the 2.5±0.3V position from the ground level.

Waveform



5.TIMER CIRCUIT ADJUSTMENT

1. Level Meter Adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose	Fault
Purpose: To make the level meter operate correctly.	Fault: The level meter does not operate normally.

Test Equipment/Jigs	Test Equipment Connection Points	State of VTR	Adjustment Point
· CR oscillator	· AUDIO IN-(L)	· AUX mode · E-E mode	· TRACKING UP/DOWN (Remote control) · STOP button
· VTVM	· AUDIO OUT-(L)		

Adjustment Procedure

1) Connect a VTVM to the AUDIO OUT-(L) terminal.
2) Connect a CR oscillator to the AUDIO IN-(L) terminal.
3) Adjust the audio output of the CR oscillator so the VTVM reads -4.8 to -5.3dBs. (The frequency should be 1kHz.)
4) Press and hold the STOP button (for more than 1 second) while simultaneously holding both TRACKING buttons (▲/▼) of the remote control depressed and check that the 0dB segments of the level meter light.
5) If the above cannot be confirmed, perform readjustment and then check IC902 (EAROM).

SCHEMATIC & CIRCUIT BOARD DIAGRAMS

MODEL : VT-F260E(NA)

[Parts Location Indexing Tables]

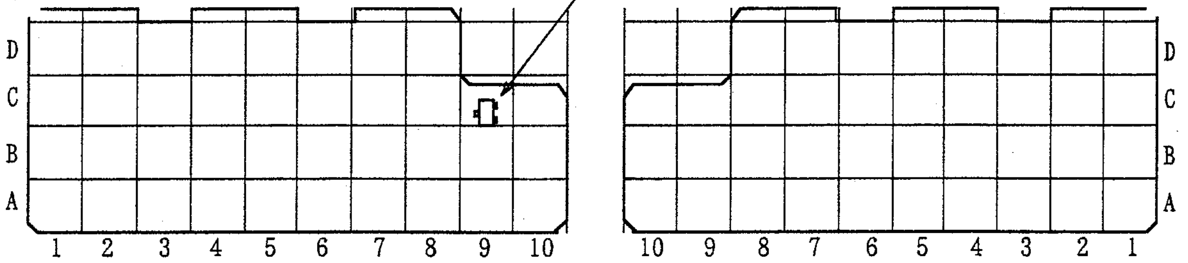
This service manual shows the parts location indexing tables beside the major circuit board diagrams. These tables indicate the locations of each part on the circuit boards. Use the tables to locate the parts on the circuit boards.

IDENTIFICATION OF PARTS LOCATION

Symbol No.	Parts Location
C201	A-2B
C202	B-3B
C203	A-4A

Symbol No.	Parts Location
R201	B-5C
R202	A-5B
Q216	A-9C

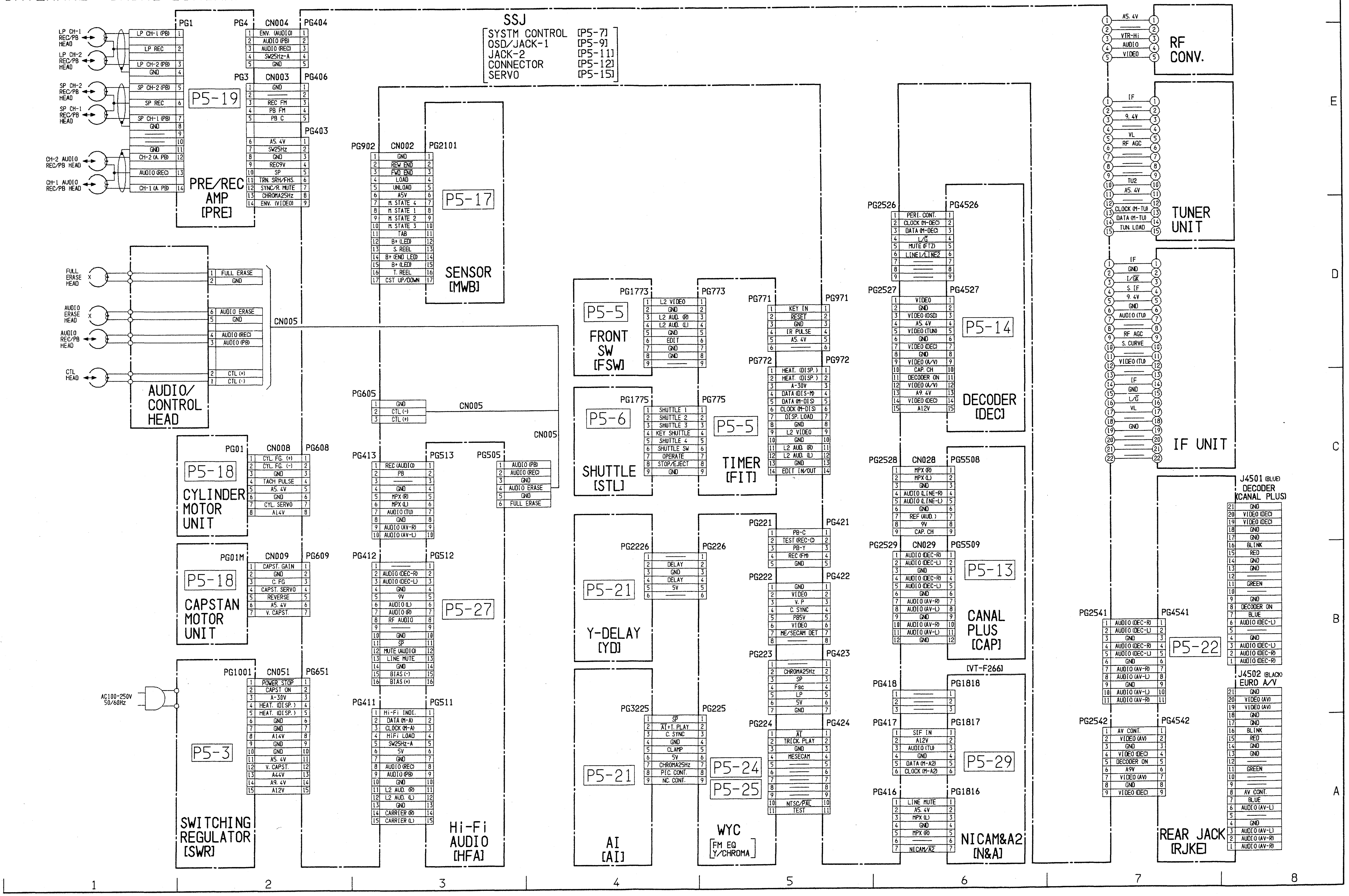
A-9C
Location
Face of board



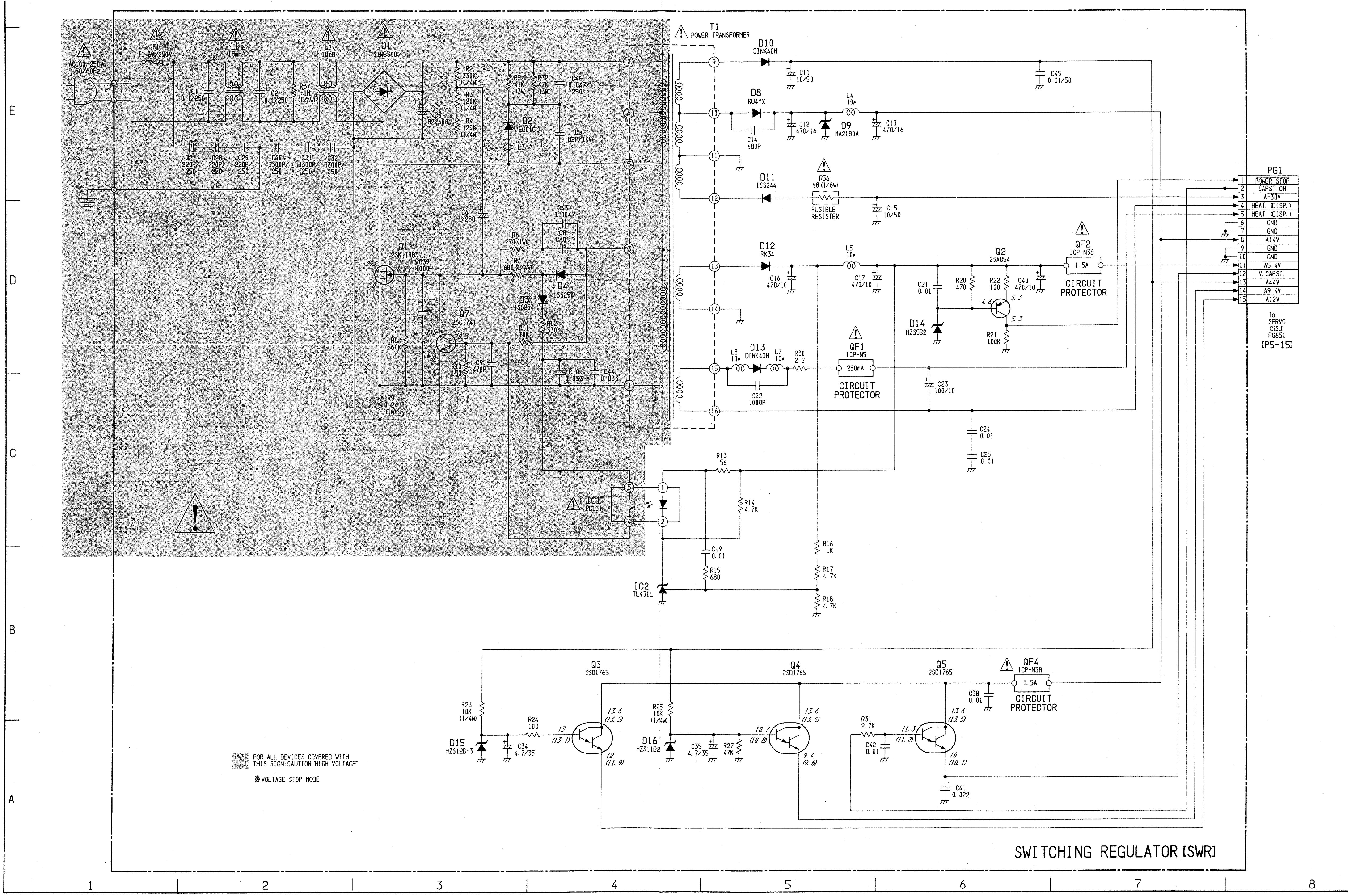
Y/CHROMA〔WYC〕
- SIDE A -

Y/CHROMA〔WYC〕
- SIDE B -

INTERNAL WIRING DIAGRAM


LP CH-1 REC/PB HEAD
LP CH-2 REC/PB HEAD
SP CH-2 REC/PB HEAD
SP CH-1 REC/PB HEAD
CH-2 AUDIO REC/PB HEAD
CH-1 AUDIO REC/PB HEAD
PG1
PG4
CN004
PG404
PG3
CN003
PG406
PG403
P5-19
PRE/REC AMP [PRE]
SSJ
SYSTM CONTROL [P5-7]
OSD/JACK-1 [P5-9]
JACK-2 [P5-11]
CONNECTOR [P5-12]
SERVO [P5-15]
FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
CTL HEAD
AUDIO/ CONTROL HEAD
CN005
PG902
CN002
PG2101
P5-17
SENSOR [MWB]
PG605
PG01
CN008
PG608
P5-18
CYLINDER MOTOR UNIT
PG01M
CN009
PG609
CAPSTAN MOTOR UNIT
AC100-250V 50/60Hz
PG1001
CN051
PG651
P5-3
SWITCHING REGULATOR [SWR]
PG413
PG513
PG505
PG412
PG512
P5-27
PG411
PG511
Hi-Fi AUDIO [HFA]
P5-5
FRONT SW [FSW]
PG1773
PG773
PG771
PG971
PG772
PG972
P5-6
SHUTTLE [STL]
PG1775
PG775
TIMER [FIT]
P5-21
Y-DELAY [YD]
PG2226
PG226
PG221
PG421
PG222
PG422
PG223
PG423
PG3225
PG225
PG224
PG424
P5-24
P5-25
AI [AI]
WYC
FM EQ Y/CHROMA
PG2526
PG4526
PG2527
PG4527
P5-14
DECODER [DEC]
PG2528
CN028
PG5508
PG2529
CN029
PG5509
P5-13
CANAL PLUS [CAP]
[VT-F266]
PG418
PG1818
PG417
PG1817
PG416
PG1816
P5-29
NICAM&A2 [N&A]
RF CONV.
TUNER UNIT
IF UNIT
PG2541
PG4541
P5-22
PG2542
PG4542
REAR JACK [RJKE]
J4501 (BLUE) DECODER (CANAL PLUS)
J4502 (BLACK) EURO A/V
A5.4V
VTR-Hi
AUDIO
VIDEO
IF
9.4V
VL
RF AGC
TU2
CLOCK (M-TU)
DATA (M-TU)
TUN. LOAD
GND
I/GK
S.IF
AUDIO (TU)
S.CURVE
VIDEO (TU)
L/G
E
D
C
B
A
1
2
3
4
5
6
7
8

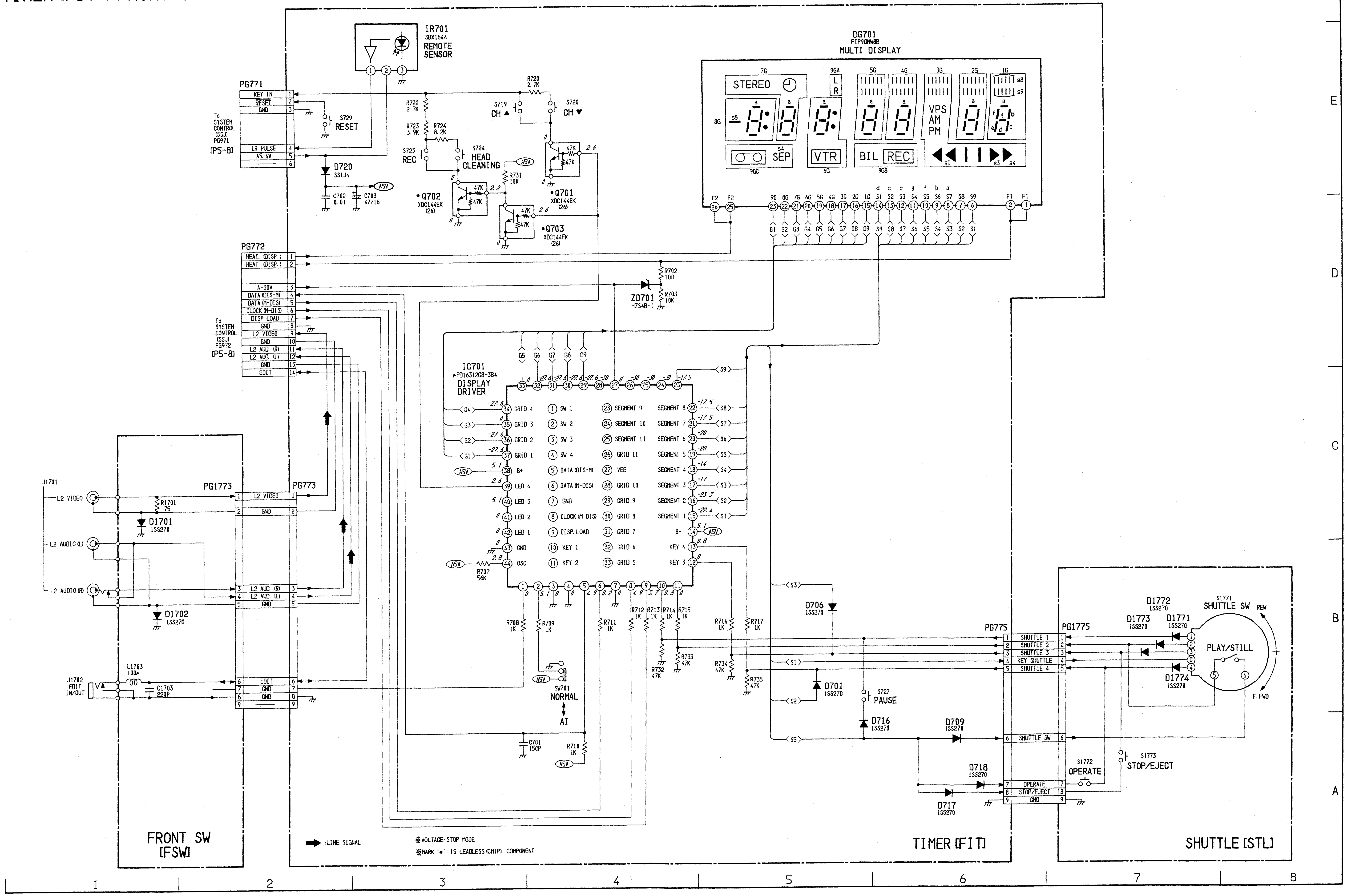
SWITCHING REGULATOR [SWR] SCHEMATIC DIAGRAM


AC100-250V 50/60Hz
F1 T1.6A/250V
L1 18mH
L2 18mH
D1 S1WBS60
C1 0.1/250
C2 0.1/250
R37 1M (1/4W)
C3 82/400
R2 330K (1/4W)
R3 120K (1/4W)
R4 120K (1/4W)
R5 47K (3W)
R32 47K (3W)
C4 0.047/250
D2 EG01C
L3
C5 82P/1KV
C27 220P/250
C28 220P/250
C29 220P/250
C30 3300P/250
C31 3300P/250
C32 3300P/250
C6 1/250
C43 0.0047
C8 0.01
R6 270 (1W)
R7 680 (1/4W)
Q1 2SK1198
C39 1000P
D4 1SS254
D3 1SS254
Q7 2SC1741
R8 560K
R11 10K
R12 330
R10 150
C9 470P
C10 0.033
C44 0.033
R9 0.24 (1W)
T1 POWER TRANSFORMER
D10 D1NK40H
C11 10/50
C45 0.01/50
D8 RU4YX
C14 680P
C12 470/16
D9 MA2180A
L4 10μ
C13 470/16
D11 1SS244
R36 68 (1/6W)
FUSIBLE RESISTER
C15 10/50
D12 RK34
C16 470/10
L5 10μ
C17 470/10
C21 0.01
R20 470
R22 100
C40 470/10
Q2 2SA854
QF2 ICP-N38
1.5A
CIRCUIT PROTECTOR
D14 HZS5B2
R21 100K
L8 10μ
D13 D1NK40H
L7 10μ
R30 2.2
QF1 ICP-N5
250mA
CIRCUIT PROTECTOR
C22 1000P
C23 100/10
C24 0.01
C25 0.01
R13 56
R14 4.7K
IC1 PC111
C19 0.01
R15 680
IC2 TL431L
R16 1K
R17 4.7K
R18 4.7K
PG1
1 POWER STOP
2 CAPST. ON
3 A-30V
4 HEAT. (DISP.)
5 HEAT. (DISP.)
6 GND
7 GND
8 A14V
9 GND
10 GND
11 A5.4V
12 V.CAPST.
13 A44V
14 A9.4V
15 A12V
To SERVO (SSJ) PG651 [P5-15]
Q3 2SD1765
Q4 2SD1765
Q5 2SD1765
QF4 ICP-N38
1.5A
CIRCUIT PROTECTOR
R23 10K (1/4W)
D15 HZS12B-3
R24 100
C34 4.7/35
R25 10K (1/4W)
D16 HZS11B2
C35 4.7/35
R27 47K
R31 2.7K
C42 0.01
C38 0.01
C41 0.022
SWITCHING REGULATOR [SWR]
A
B
C
D
E
1
2
3
4
5
6
7
8

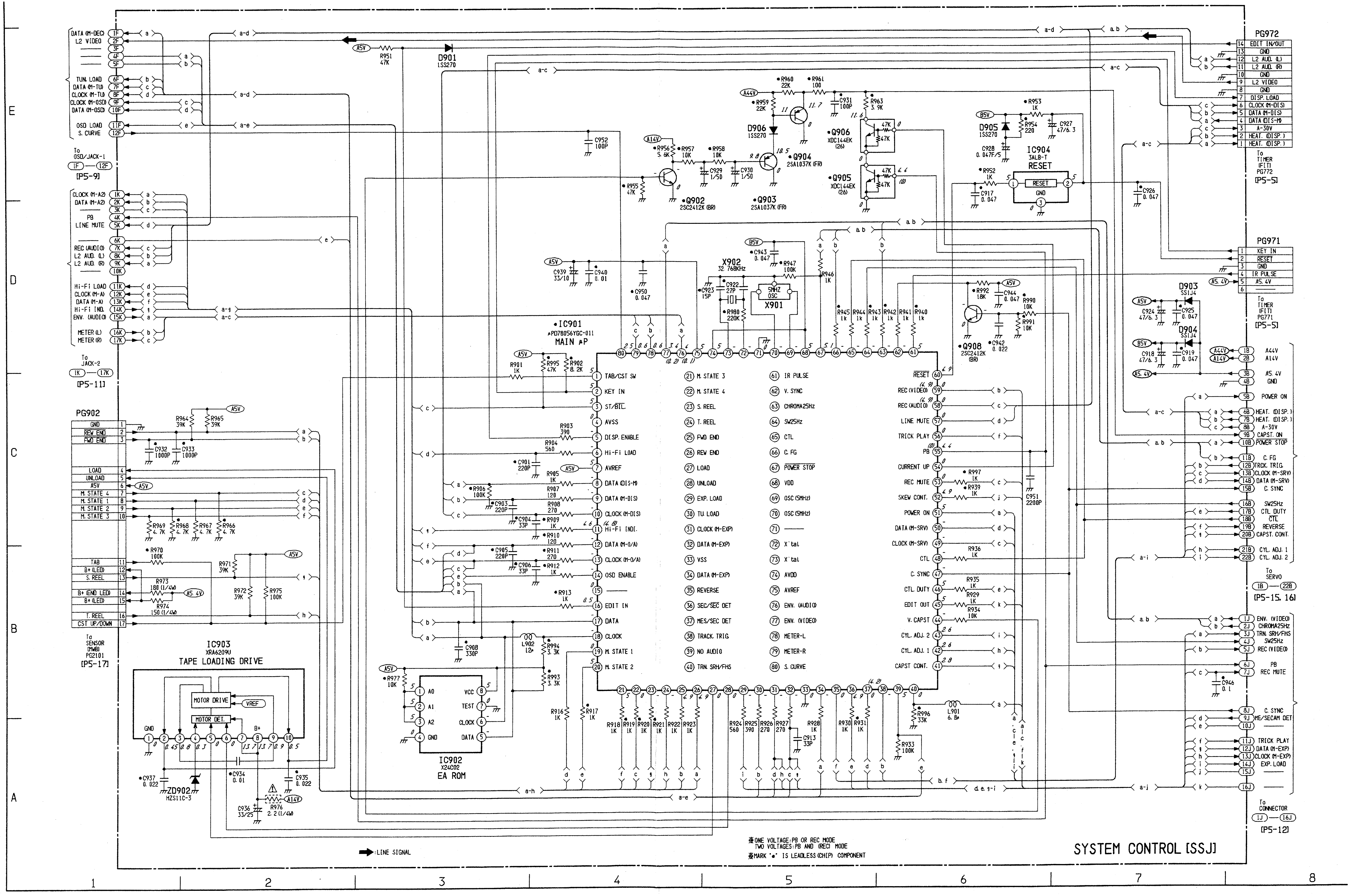
FOR ALL DEVICES COVERED WITH THIS SIGN:CAUTION 'HIGH VOLTAGE'

※VOLTAGE:STOP MODE

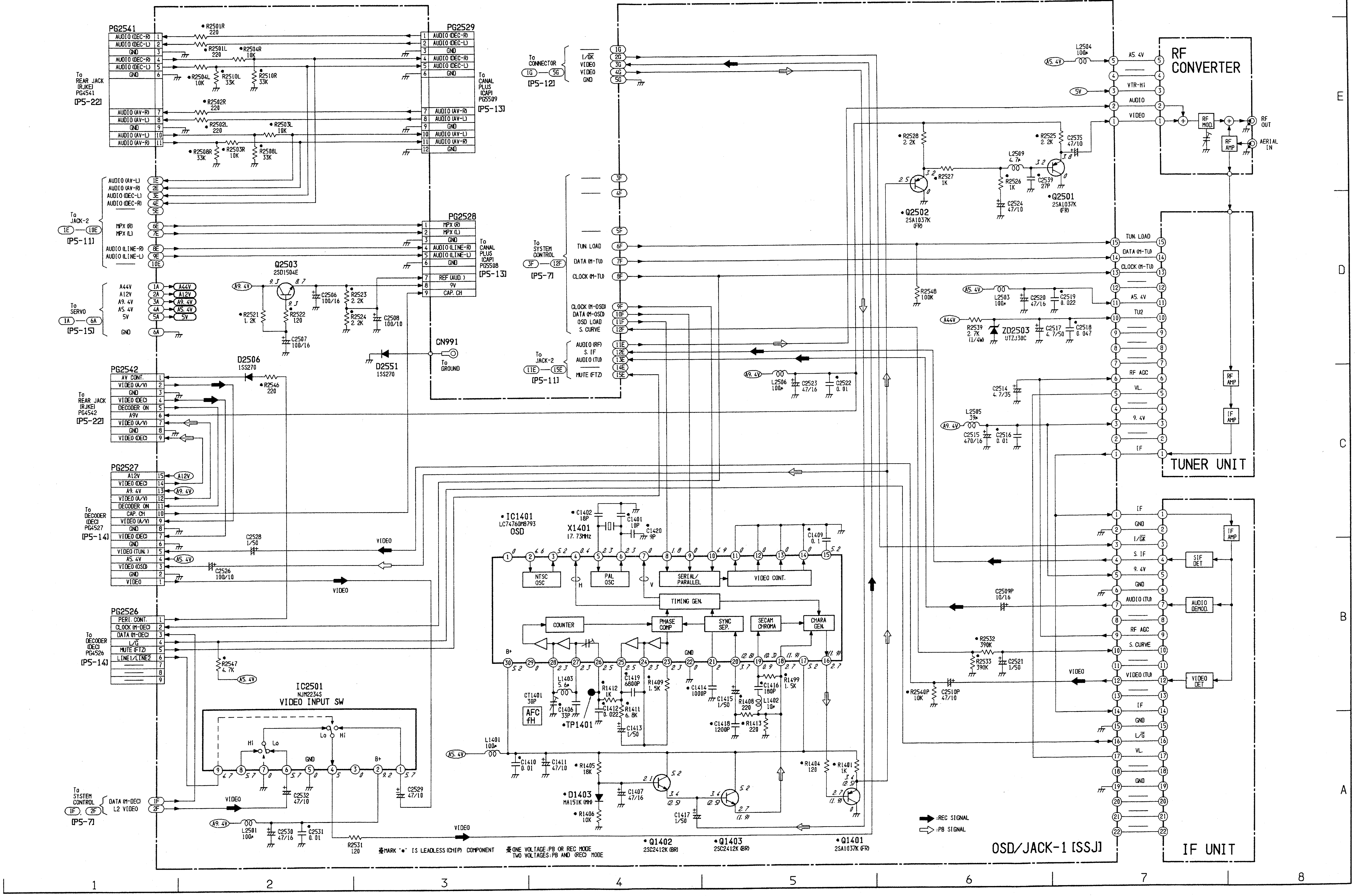
TIMER [FIT], FRONT SW [FSW], SHUTTLE [STL] SCHEMATIC DIAGRAM


IR701
SBX1644
REMOTE SENSOR
PG771
KEY IN
RESET
GND
IR PULSE
A5. 4V
To SYSTEM CONTROL [SS] PG971
[P5-8]
S729 RESET
D720 SS1J4
C702 0.01
C703 47/16
R722 2.7K
R723 3.9K
R724 8.2K
R720 2.7K
S719 CH ▲
S720 CH ▼
S723 REC
S724 HEAD CLEANING
R731 10K
A5V
•Q702 XDC144EK (26)
•Q703 XDC144EK (26)
•Q701 XDC144EK (26)
47K
DG701
FIP9GMW8B
MULTI DISPLAY
STEREO
VPS
AM
PM
SEP
VTR
BIL
REC
9GC
6G
9GB
F2
F1
G1 G2 G3 G4 G5 G6 G7 G8 G9 S9 S8 S7 S6 S5 S4 S3 S2 S1
PG772
HEAT. (DISP.)
A-30V
DATA (D(S-M)
DATA (M-DIS)
CLOCK (M-DIS)
DISP. LOAD
GND
L2 VIDEO
L2 AUD. (R)
L2 AUD. (L)
EDIT
To SYSTEM CONTROL [SS] PG972
[P5-8]
R702 100
R703 10K
ZD701 HZS4B-1
IC701
※PD16312GB-394
DISPLAY DRIVER
① SW 1
② SW 2
③ SW 3
④ SW 4
⑤ DATA (D(S-M)
⑥ DATA (M-DIS)
⑦ GND
⑧ CLOCK (M-DIS)
⑨ DISP. LOAD
⑩ KEY 1
⑪ KEY 2
㉓ SEGMENT 9
㉔ SEGMENT 10
㉕ SEGMENT 11
㉖ GRID 11
㉗ VEE
㉘ GRID 10
㉙ GRID 9
㉚ GRID 8
㉛ GRID 7
㉜ GRID 6
㉝ GRID 5
㉞ GRID 4
㉟ GRID 3
㊱ GRID 2
㊲ GRID 1
㊳ B+
㊴ LED 4
㊵ LED 3
㊶ LED 2
㊷ LED 1
㊸ GND
㊹ OSC
SEGMENT 8 ㉒
SEGMENT 7 ㉑
SEGMENT 6 ⑳
SEGMENT 5 ⑲
SEGMENT 4 ⑱
SEGMENT 3 ⑰
SEGMENT 2 ⑯
SEGMENT 1 ⑮
B+ ⑭
KEY 4 ⑬
KEY 3 ⑫
R707 56K
R708 1K
R709 1K
R711 1K
R712 1K
R713 1K
R714 1K
R715 1K
R716 1K
R717 1K
R732 47K
R733 47K
R734 47K
R735 47K
SW701 NORMAL AI
C701 150P
R710 1K
D706 1SS270
D701 1SS270
S727 PAUSE
D716 1SS270
D709 1SS270
D718 1SS270
D717 1SS270
PG775
PG1775
SHUTTLE 1
SHUTTLE 2
SHUTTLE 3
KEY SHUTTLE
SHUTTLE 4
SHUTTLE SW
OPERATE
STOP/EJECT
D1772 1SS270
D1773 1SS270
D1771 1SS270
D1774 1SS270
S1771 SHUTTLE SW
REW
PLAY/STILL
F. FWD
S1772 OPERATE
S1773 STOP/EJECT
J1701
L2 VIDEO
L2 AUDIO (L)
L2 AUDIO (R)
R1701 75
D1701 1SS270
D1702 1SS270
PG1773
PG773
J1702 EDIT IN/OUT
L1703 100µ
C1703 220P
FRONT SW [FSW]
TIMER [FIT]
SHUTTLE [STL]
:LINE SIGNAL
※VOLTAGE: STOP MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT
1 2 3 4 5 6 7 8
A B C D E

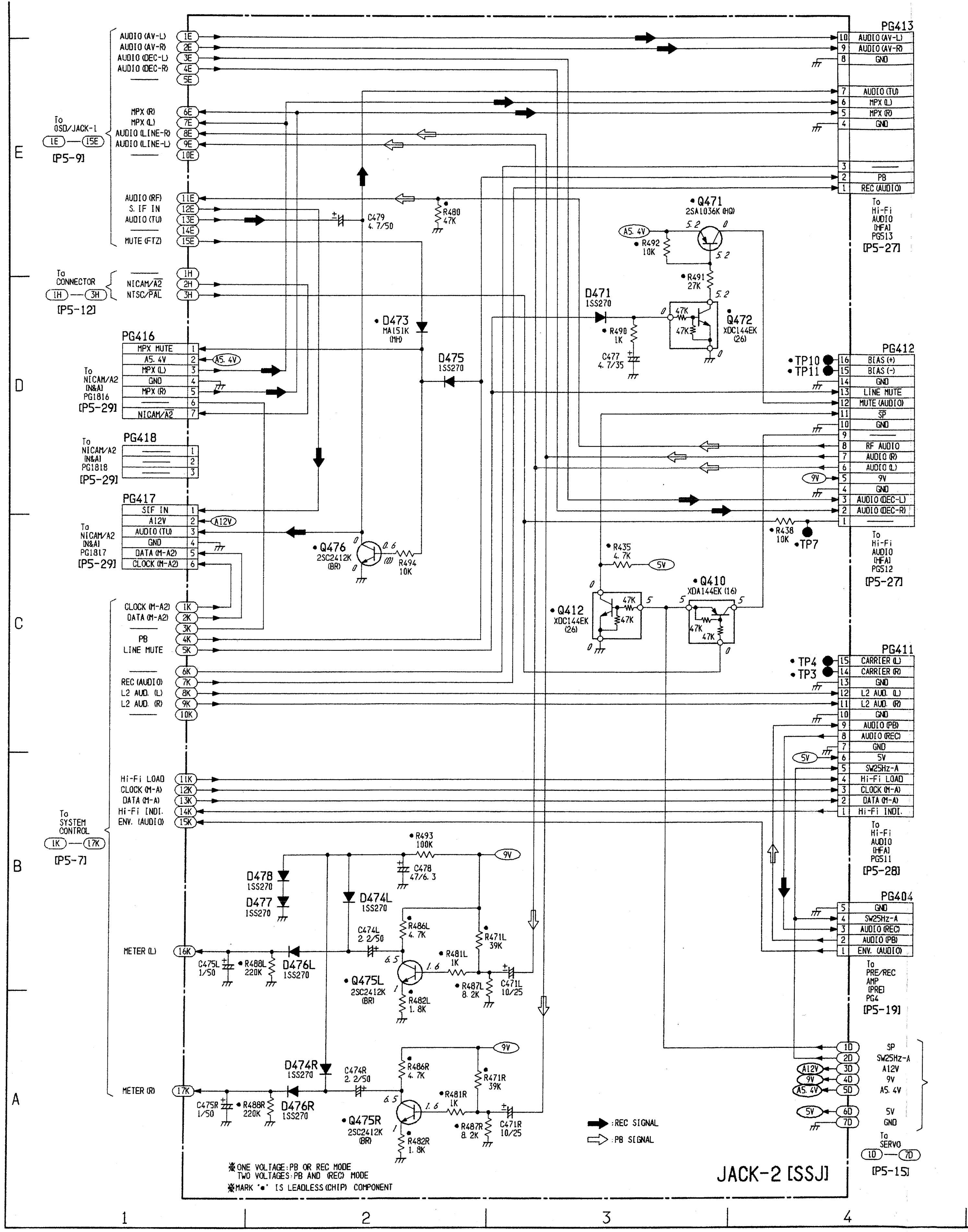
SYSTEM CONTROL [SSJ] SCHEMATIC DIAGRAM


IC901
μPD78056YGC-011
MAIN μP
IC902
X24C02
EA ROM
IC903
XRA6209U
TAPE LOADING DRIVE
MOTOR DRIVE
MOTOR DET.
VREF
IC904
3ALB-T
RESET
Q902 2SC2412K (BR)
Q903 2SA1037K (FR)
Q904 2SA1037K (FR)
Q905 XDC144EK (26)
Q906 XDC144EK (26)
Q908 2SC2412K (BR)
D901 1SS270
D903 SS1J4
D904 SS1J4
D905 1SS270
D906 1SS270
ZD902 HZS11C-3
X901 5MHz OSC
X902 32.768KHz
L901 6.8μ
L902 12μ
PG902
PG971
PG972
To OSD/JACK-1 (1F)—(12F) [P5-9]
To JACK-2 (1K)—(17K) [P5-11]
To SENSOR (MWB) PG2101 [P5-17]
To TIMER (FIT) PG772 [P5-5]
To TIMER (FIT) PG771 [P5-5]
To SERVO (1B)—(22B) [P5-15, 16]
To CONNECTOR (1J)—(16J) [P5-12]
➡:LINE SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "●" IS LEADLESS (CHIP) COMPONENT
SYSTEM CONTROL [SSJ]
1
2
3
4
5
6
7
8
A
B
C
D
E

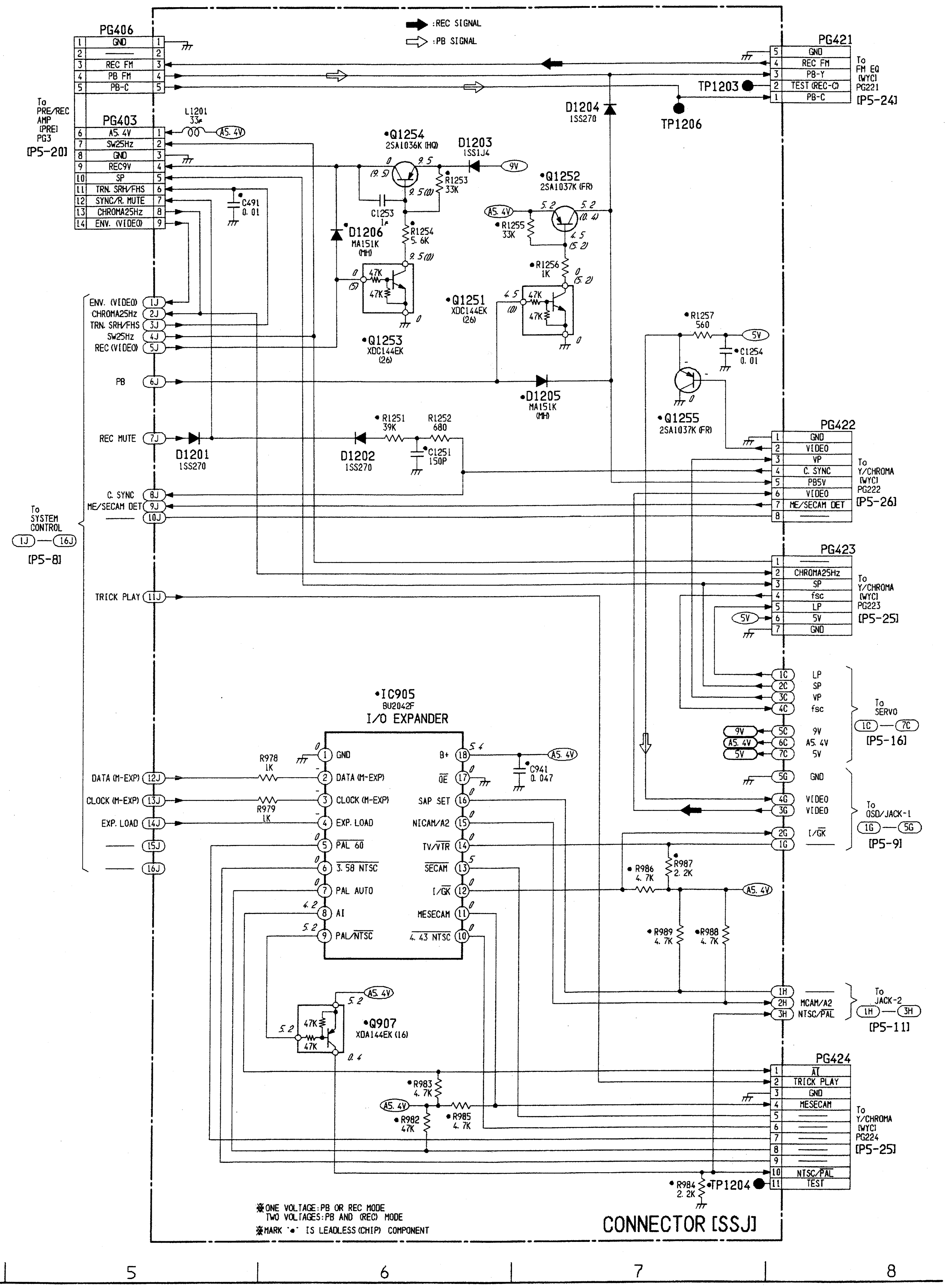
OSD/JACK-1 [SSJ] SCHEMATIC DIAGRAM


PG2541
AUDIO (DEC-R)
AUDIO (DEC-L)
GND
AUDIO (AV-R)
AUDIO (AV-L)
To REAR JACK (RJKE) PG4541 [P5-22]
PG2529
To CANAL PLUS (CAPI) PG5509 [P5-13]
R2501R 220
R2501L 220
R2504R 10K
R2504L 10K
R2510L 33K
R2510R 33K
R2502R 220
R2502L 220
R2503L 10K
R2508R 33K
R2503R 10K
R2508L 33K
To JACK-2 (1E)—(10E) [P5-11]
MPX (R)
MPX (L)
AUDIO (LINE-R)
AUDIO (LINE-L)
PG2528
REF (AUD.)
9V
CAP. CH
To CANAL PLUS (CAPI) PG5508 [P5-13]
Q2503 2SD1504E
R2521 1.2K
R2522 120
R2523 2.2K
R2524 2.2K
C2506 100/16
C2507 100/16
C2508 100/10
A44V
A12V
A9.4V
A5.4V
5V
GND
To SERVO (1A)—(6A) [P5-15]
CN991
To GROUND
D2551 1SS270
D2506 1SS270
R2546 220
PG2542
AV CONT.
VIDEO (A/V)
VIDEO (DEC)
DECODER ON
A9V
To REAR JACK (RJKE) PG4542 [P5-22]
PG2527
VIDEO (TUN.)
VIDEO (OSD)
VIDEO
CAP. CH
To DECODER (DEC) PG4527 [P5-14]
C2528 1/50
C2526 100/10
PG2526
PERI. CONT.
CLOCK (M-DEC)
DATA (M-DEC)
L/G
MUTE (FTZ)
LINE1/LINE2
To DECODER (DEC) PG4526 [P5-14]
R2547 4.7K
IC2501 NJM2234S VIDEO INPUT SW
Hi Lo
GND
B+
C2532 47/10
C2529 47/10
To SYSTEM CONTROL (1F), (2F) [P5-7]
DATA (M-DEC)
L2 VIDEO
L2501 100μ
C2530 47/16
C2531 0.01
R2531 120
※MARK '●' IS LEADLESS (CHIP) COMPONENT
※ONE VOLTAGE: PB OR REC MODE
TWO VOLTAGES: PB AND (REC) MODE
To CONNECTOR (1G)—(5G) [P5-12]
I/GK
VIDEO
To SYSTEM CONTROL (3F)—(12F) [P5-7]
TUN. LOAD
DATA (M-TU)
CLOCK (M-TU)
CLOCK (M-OSD)
DATA (M-OSD)
OSD LOAD
S. CURVE
To JACK-2 (11E)—(15E) [P5-11]
AUDIO (RF)
S. IF
AUDIO (TU)
MUTE (FTZ)
IC1401 LC74760M8793 OSD
X1401 17.73MHz
C1402 18P
C1401 10P
C1420 9P
C1409 0.1
NTSC OSC
PAL OSC
SERIAL/PARALLEL
VIDEO CONT.
TIMING GEN.
COUNTER
PHASE COMP
SYNC SEP.
SECAM CHROMA
CHARA GEN.
CT1401 30P
AFC fH
L1403 5.6μ
C1406 33P
TP1401
R1412 1K
C1419 6800P
C1412 0.022
R1411 6.8K
C1413 1/50
R1409 1.5K
C1414 1000P
C1415 1/50
R1408 220
C1416 180P
R1499 1.5K
L1402 10μ
C1418 1200P
R1413 220
L1401 100μ
C1410 0.01
C1411 47/10
R1405 18K
D1403 MA151K (MH)
R1406 10K
C1407 47/16
C1417 1/50
R1404 120
R1401 1K
Q1402 2SC2412K (BR)
Q1403 2SC2412K (BR)
Q1401 2SA1037K (FR)
RF CONVERTER
A5.4V
VTR-Hi
AUDIO
VIDEO
RF MOD.
RF AMP
RF OUT
AERIAL IN
L2504 100μ
R2528 2.2K
R2525 2.2K
C2535 47/10
L2509 4.7μ
R2527 1K
R2526 1K
C2539 27P
C2524 47/10
Q2502 2SA1037K (FR)
Q2501 2SA1037K (FR)
TUNER UNIT
R2548 100K
L2503 100μ
C2520 47/16
C2519 0.022
TU2
R2539 2.7K (1/4W)
ZD2503 UTZJ30C
C2517 4.7/50
C2518 0.047
L2506 100μ
C2523 47/16
C2522 0.01
RF AGC
VL.
C2514 4.7/35
L2505 39μ
C2515 470/16
C2516 0.01
IF
IF AMP
IF UNIT
SIF DET
AUDIO DEMOD.
VIDEO DET
C2509P 10/16
AUDIO (TU)
R2532 390K
R2533 390K
C2521 1/50
R2540P 10K
C2510P 47/10
VIDEO (TU)
■➡ :REC SIGNAL
⇨ :PB SIGNAL
OSD/JACK-1 [SSJ]
1 2 3 4 5 6 7 8
A B C D E

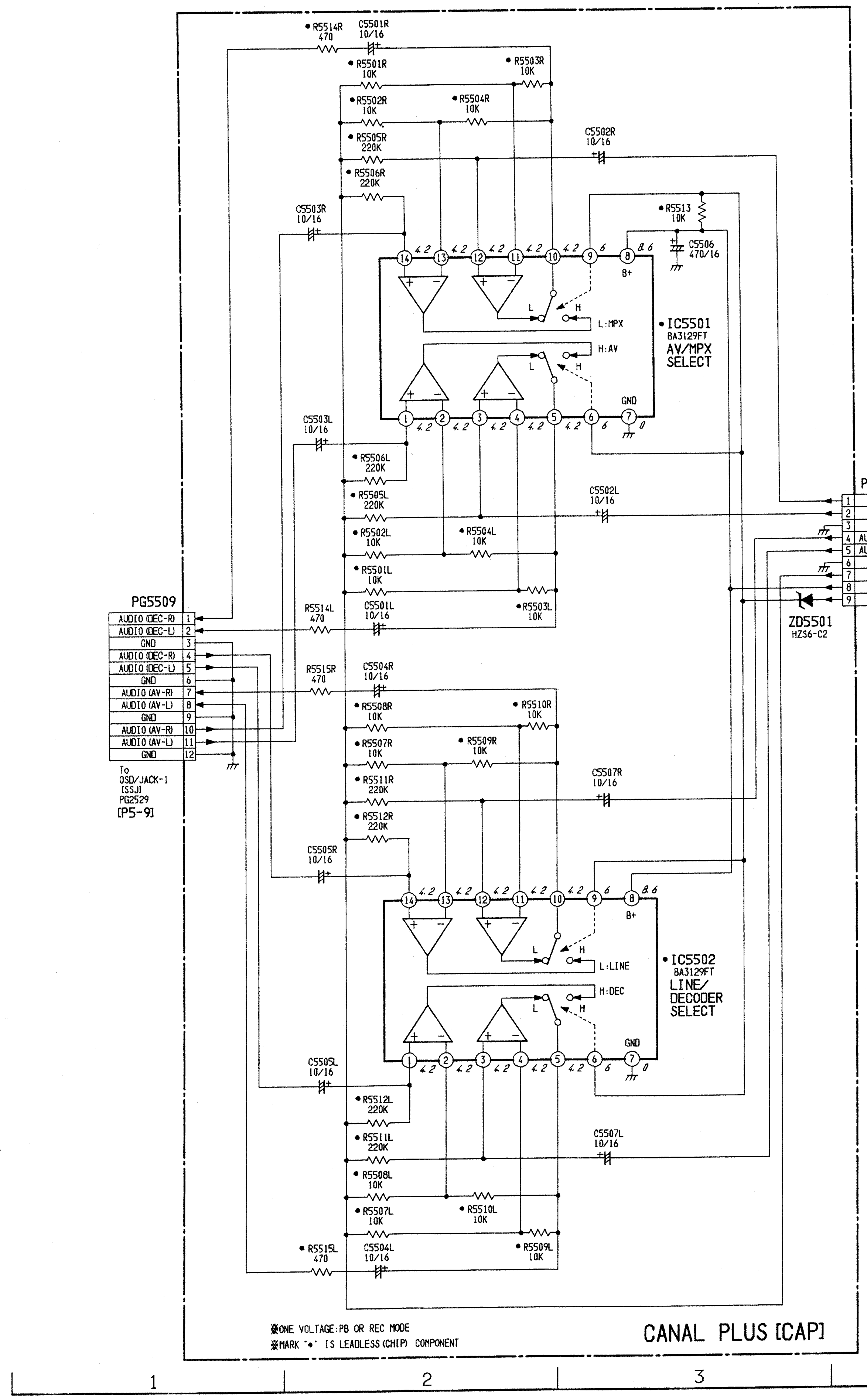
JACK-2 [SSJ] SCHEMATIC DIAGRAM


PG413
AUDIO (AV-L)
AUDIO (AV-R)
AUDIO (DEC-L)
AUDIO (DEC-R)
MPX (R)
MPX (L)
AUDIO (LINE-R)
AUDIO (LINE-L)
To OSD/JACK-1
1E — 15E
[P5-9]
AUDIO (RF)
S. IF IN
AUDIO (TU)
MUTE (FTZ)
To CONNECTOR
1H — 3H
[P5-12]
NICAM/A2
NTSC/PAL
PG416
MPX MUTE
A5. 4V
MPX (L)
GND
MPX (R)
NICAM/A2
To NICAM/A2 (N&A) PG1816
[P5-29]
PG418
To NICAM/A2 (N&A) PG1818
[P5-29]
PG417
SIF IN
A12V
AUDIO (TU)
GND
DATA (M-A2)
CLOCK (M-A2)
To NICAM/A2 (N&A) PG1817
[P5-29]
CLOCK (M-A2)
DATA (M-A2)
PB
LINE MUTE
REC (AUDIO)
L2 AUD. (L)
L2 AUD. (R)
Hi-Fi LOAD
CLOCK (M-A)
DATA (M-A)
Hi-Fi INDI.
ENV. (AUDIO)
To SYSTEM CONTROL
1K — 17K
[P5-7]
METER (L)
METER (R)
C479 4.7/50
R480 47K
•Q471 2SA1036K (HQ)
A5.4V
•R492 10K
•R491 27K
D471 1SS270
•R490 1K
C477 4.7/35
Q472 XDC144EK (26)
•D473 MA151K (MH)
D475 1SS270
•Q476 2SC2412K (BR)
R494 10K
•R435 4.7K
5V
•Q412 XDC144EK (26)
•Q410 XDA144EK (16)
•R438 10K
•TP7
•TP10
•TP11
PG412
BIAS (+)
BIAS (-)
GND
LINE MUTE
MUTE (AUDIO)
SP
RF AUDIO
AUDIO (R)
AUDIO (L)
9V
AUDIO (DEC-L)
AUDIO (DEC-R)
AUDIO (TU)
MPX (L)
MPX (R)
PB
REC (AUDIO)
To Hi-Fi AUDIO (HFA) PG513
[P5-27]
To Hi-Fi AUDIO (HFA) PG512
[P5-27]
•TP4
•TP3
PG411
CARRIER (L)
CARRIER (R)
L2 AUD. (L)
L2 AUD. (R)
AUDIO (PB)
AUDIO (REC)
5V
SW25Hz-A
Hi-Fi LOAD
CLOCK (M-A)
DATA (M-A)
Hi-Fi INDI.
To Hi-Fi AUDIO (HFA) PG511
[P5-28]
PG404
GND
SW25Hz-A
AUDIO (REC)
AUDIO (PB)
ENV. (AUDIO)
To PRE/REC AMP (PRE) PG4
[P5-19]
D478 1SS270
D477 1SS270
•R493 100K
C478 47/6.3
9V
D474L 1SS270
C474L 2.2/50
R486L 4.7K
R471L 39K
•R481L 1K
•R487L 8.2K
C471L 10/25
•Q475L 2SC2412K (BR)
R482L 1.8K
C475L 1/50
•R488L 220K
D476L 1SS270
D474R 1SS270
C474R 2.2/50
R486R 4.7K
R471R 39K
•R481R 1K
•R487R 8.2K
C471R 10/25
•Q475R 2SC2412K (BR)
R482R 1.8K
C475R 1/50
•R488R 220K
D476R 1SS270
SP
SW25Hz-A
A12V
9V
A5.4V
5V
GND
To SERVO
1D — 7D
[P5-15]
:REC SIGNAL
:PB SIGNAL
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
JACK-2 [SSJ]
E
D
C
B
A
1
2
3
4

CONNECTOR [SSJ] SCHEMATIC DIAGRAM

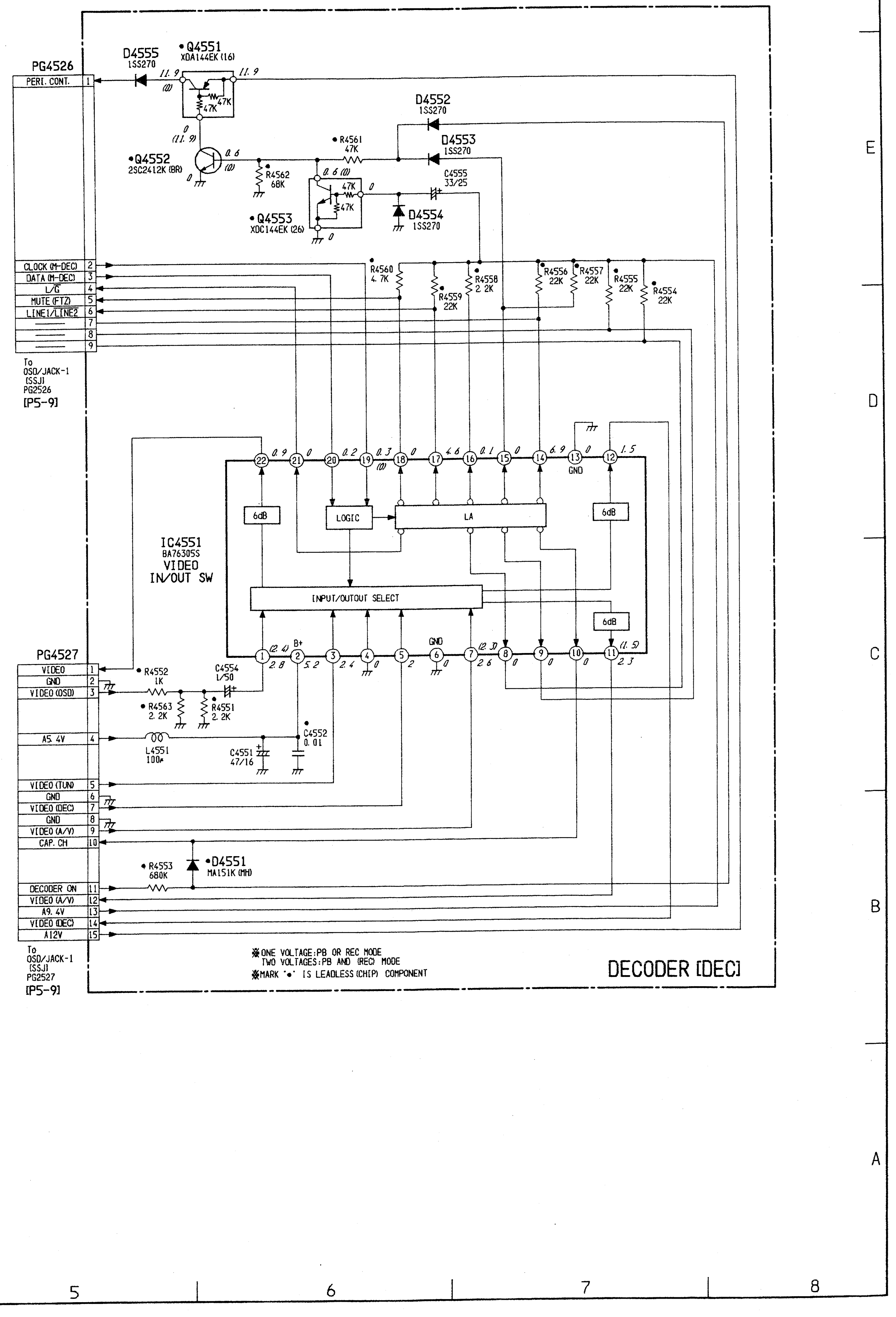

:REC SIGNAL
:PB SIGNAL
PG406
GND
REC FM
PB FM
PB-C
To PRE/REC AMP (PRE) PG3
[P5-20]
PG403
A5.4V
SW25Hz
GND
REC9V
SP
TRN. SRH/FHS
SYNC/R. MUTE
CHROMA25Hz
ENV. (VIDEO)
L1201 33μ
C491 0.01
•Q1254 2SA1036K (HQ)
D1203 1SS1J4
9V
R1253 33K
C1253 1μ
•D1206 MA151K (MH)
R1254 5.6K
•Q1253 XDC144EK (26)
•Q1252 2SA1037K (FR)
•R1255 33K
•R1256 1K
•Q1251 XDC144EK (26)
D1204 1SS270
TP1203
TP1206
PG421
GND
REC FM
PB-Y
TEST (REC-C)
PB-C
To FM EQ (WYC) PG221
[P5-24]
ENV. (VIDEO)
CHROMA25Hz
TRN. SRH/FHS
SW25Hz
REC (VIDEO)
PB
REC MUTE
D1201 1SS270
•D1205 MA151K (MH)
•R1251 39K
R1252 680
•C1251 150P
D1202 1SS270
C. SYNC
ME/SECAM DET
To SYSTEM CONTROL
1J — 16J
[P5-8]
TRICK PLAY
•R1257 560
5V
•C1254 0.01
•Q1255 2SA1037K (FR)
PG422
GND
VIDEO
VP
C. SYNC
PB5V
VIDEO
ME/SECAM DET
To Y/CHROMA (WYC) PG222
[P5-26]
PG423
CHROMA25Hz
SP
fsc
LP
5V
GND
To Y/CHROMA (WYC) PG223
[P5-25]
LP
SP
VP
fsc
9V
A5.4V
5V
To SERVO
1C — 7C
[P5-16]
GND
VIDEO
VIDEO
I/GK
To OSD/JACK-1
1G — 5G
[P5-9]
•IC905 BU2042F I/O EXPANDER
GND
DATA (M-EXP)
CLOCK (M-EXP)
EXP. LOAD
PAL 60
3.58 NTSC
PAL AUTO
AI
PAL/NTSC
B+
OE
SAP SET
NICAM/A2
TV/VTR
SECAM
I/GK
MESECAM
4.43 NTSC
R978 1K
R979 1K
C941 0.047
DATA (M-EXP)
CLOCK (M-EXP)
EXP. LOAD
•R986 4.7K
•R987 2.2K
•R989 4.7K
•R988 4.7K
NICAM/A2
NTSC/PAL
To JACK-2
1H — 3H
[P5-11]
•Q907 XDA144EK (16)
•R983 4.7K
•R982 47K
•R985 4.7K
PG424
AI
TRICK PLAY
GND
MESECAM
NTSC/PAL
TEST
To Y/CHROMA (WYC) PG224
[P5-25]
•R984 2.2K
•TP1204
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS (CHIP) COMPONENT
CONNECTOR [SSJ]
5
6
7
8

CANAL PLUS [CAP] SCHEMATIC DIAGRAM


PG5509
AUDIO (DEC-R) 1
AUDIO (DEC-L) 2
GND 3
AUDIO (DEC-R) 4
AUDIO (DEC-L) 5
GND 6
AUDIO (AV-R) 7
AUDIO (AV-L) 8
GND 9
AUDIO (AV-R) 10
AUDIO (AV-L) 11
GND 12
To OSD/JACK-1 [SSJ] PG2529 [P5-9]
IC5501 BA3129FT AV/MPX SELECT
L:MPX
H:AV
IC5502 BA3129FT LINE/DECODER SELECT
L:LINE
H:DEC
B+
GND
PG5508
MPX (R) 1
MPX (L) 2
GND 3
AUDIO (LINE-R) 4
AUDIO (LINE-L) 5
GND 6
REF (AUD.) 7
9V 8
CAP. CH 9
To OSD/JACK-1 [SSJ] PG2528 [P5-9]
ZD5501 HZS6-C2
R5514R 470
C5501R 10/16
R5501R 10K
R5503R 10K
R5502R 10K
R5504R 10K
R5505R 220K
C5502R 10/16
R5506R 220K
C5503R 10/16
R5513 10K
C5506 470/16
C5503L 10/16
R5506L 220K
R5505L 220K
C5502L 10/16
R5502L 10K
R5504L 10K
R5501L 10K
R5514L 470
C5501L 10/16
R5503L 10K
R5515R 470
C5504R 10/16
R5508R 10K
R5510R 10K
R5507R 10K
R5509R 10K
R5511R 220K
C5507R 10/16
R5512R 220K
C5505R 10/16
C5505L 10/16
R5512L 220K
R5511L 220K
C5507L 10/16
R5508L 10K
R5507L 10K
R5510L 10K
R5515L 470
C5504L 10/16
R5509L 10K
CANAL PLUS [CAP]

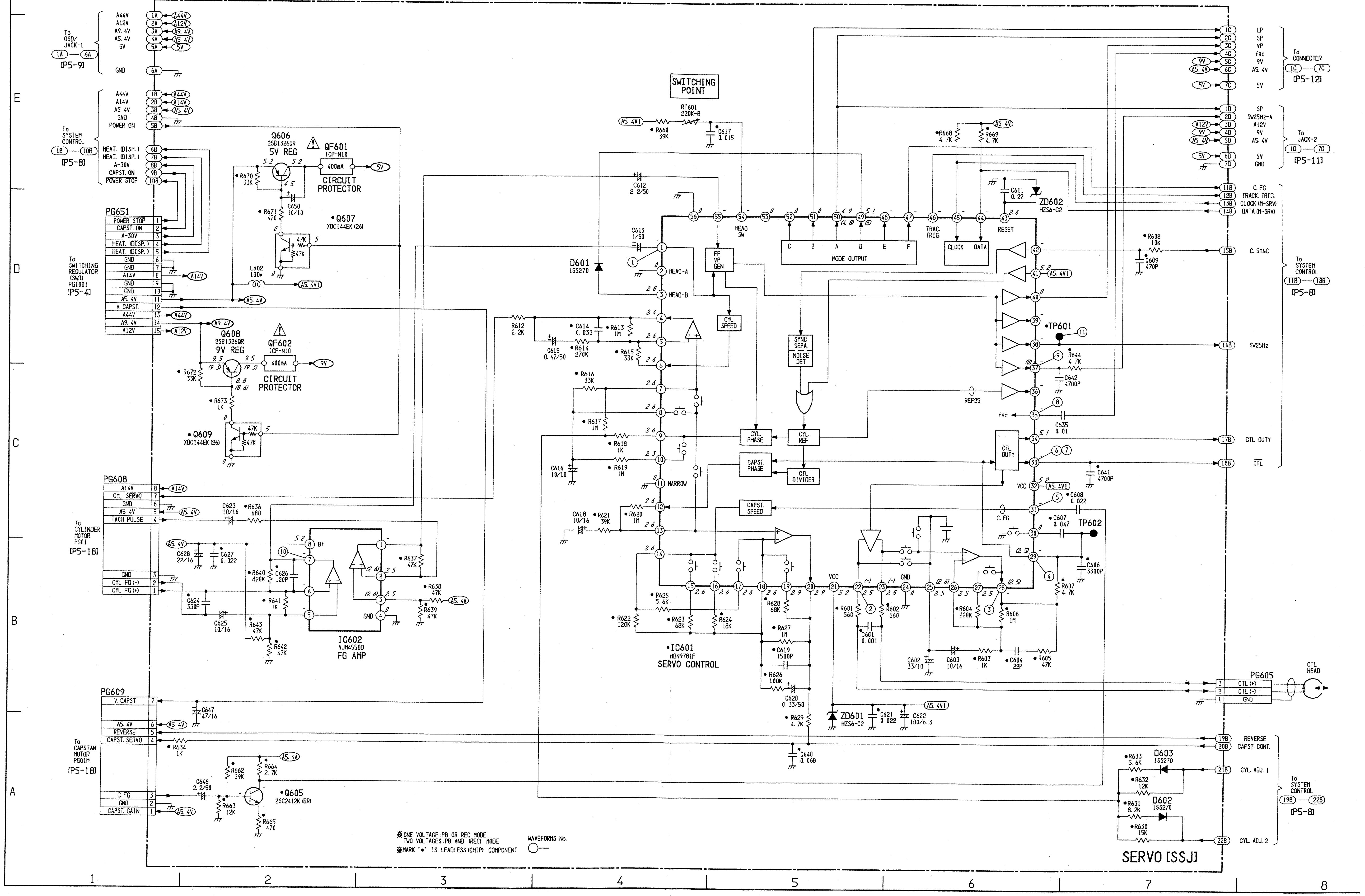
※ONE VOLTAGE:PB OR REC MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT

DECODER [DEC] SCHEMATIC DIAGRAM


PG4526
PERI. CONT. 1
CLOCK (M-DEC) 2
DATA (M-DEC) 3
L/G 4
MUTE (FTZ) 5
LINE1/LINE2 6
To OSD/JACK-1 [SSJ] PG2526 [P5-9]
D4555 1SS270
Q4551 XDA144EK (16)
Q4552 2SC2412K (BR)
Q4553 XDC144EK (26)
D4552 1SS270
D4553 1SS270
D4554 1SS270
R4561 47K
R4562 68K
C4555 33/25
R4560 4.7K
R4559 22K
R4558 2.2K
R4556 22K
R4557 22K
R4555 22K
R4554 22K
IC4551 BA7630SS VIDEO IN/OUT SW
6dB
LOGIC
LA
INPUT/OUTOUT SELECT
B+
GND
PG4527
VIDEO 1
GND 2
VIDEO (OSD) 3
A5.4V 4
VIDEO (TUN) 5
GND 6
VIDEO (DEC) 7
GND 8
VIDEO (A/V) 9
CAP. CH 10
DECODER ON 11
VIDEO (A/V) 12
A9.4V 13
VIDEO (DEC) 14
A12V 15
To OSD/JACK-1 [SSJ] PG2527 [P5-9]
R4552 1K
C4554 1/50
R4563 2.2K
R4551 2.2K
L4551 100μ
C4551 47/16
C4552 0.01
R4553 680K
D4551 MA151K (MH)
DECODER [DEC]
E
D
C
B
A
1
2
3
4
5
6
7
8

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT

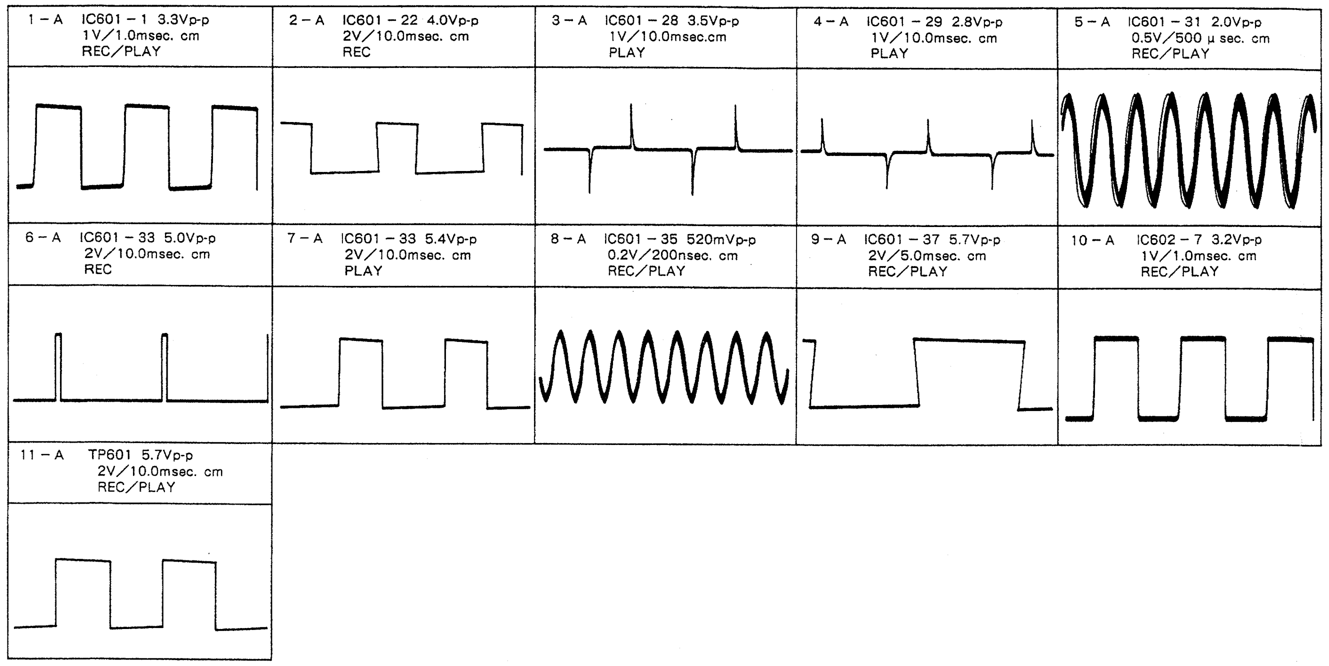
SERVO [SSJ] SCHEMATIC DIAGRAM


To OSD/JACK-1 (1A)—(6A) [P5-9]
A44V
A12V
A9. 4V
A5. 4V
5V
GND
To SYSTEM CONTROL (1B)—(10B) [P5-8]
POWER ON
HEAT. (DISP.)
A-30V
CAPST. ON
POWER STOP
PG651
To SWITCHING REGULATOR (SWR) PG1001 [P5-4]
V. CAPST.
Q606 2SB1326QR 5V REG
QF601 ICP-N10
400mA
CIRCUIT PROTECTOR
Q607 XDC144EK (26)
Q608 2SB1326QR 9V REG
QF602 ICP-N10
Q609 XDC144EK (26)
PG608
To CYLINDER MOTOR PG01 [P5-18]
CYL. SERVO
TACH PULSE
CYL. FG(-)
CYL. FG(+)
IC602 NJM4558D FG AMP
PG609
To CAPSTAN MOTOR PG01M [P5-18]
REVERSE
CAPST. SERVO
C. FG
CAPST. GAIN
Q605 2SC2412K (BR)
SWITCHING POINT
RT601 220K-B
D601 1SS270
HEAD-A
HEAD-B
HEAD SW
FF VP GEN.
CYL. SPEED
CYL. PHASE
CYL. REF
CAPST. PHASE
CTL DIVIDER
CAPST. SPEED
SYNC SEPA.
NOISE DET
MODE OUTPUT
CLOCK
DATA
RESET
TRAC. TRIG.
ZD602 HZS6-C2
TP601
TP602
REF25
fsc
CTL DUTY
VCC
GND
NARROW
IC601 HD49781F SERVO CONTROL
ZD601 HZS6-C2
LP
SP
VP
fsc
9V
A5. 4V
5V
To CONNECTER (1C)—(7C) [P5-12]
SW25Hz-A
A12V
To JACK-2 (1D)—(7D) [P5-11]
C. FG
TRACK. TRIG.
CLOCK (M-SRV)
DATA (M-SRV)
C. SYNC
SW25Hz
CTL DUTY
CTL
To SYSTEM CONTROL (11B)—(18B) [P5-8]
PG605
CTL (+)
CTL (-)
CTL HEAD
REVERSE
CAPST. CONT.
CYL. ADJ. 1
CYL. ADJ. 2
D603 1SS270
D602 1SS270
To SYSTEM CONTROL (19B)—(22B) [P5-8]
SERVO [SSJ]
1
2
3
4
5
6
7
8
A
B
C
D
E

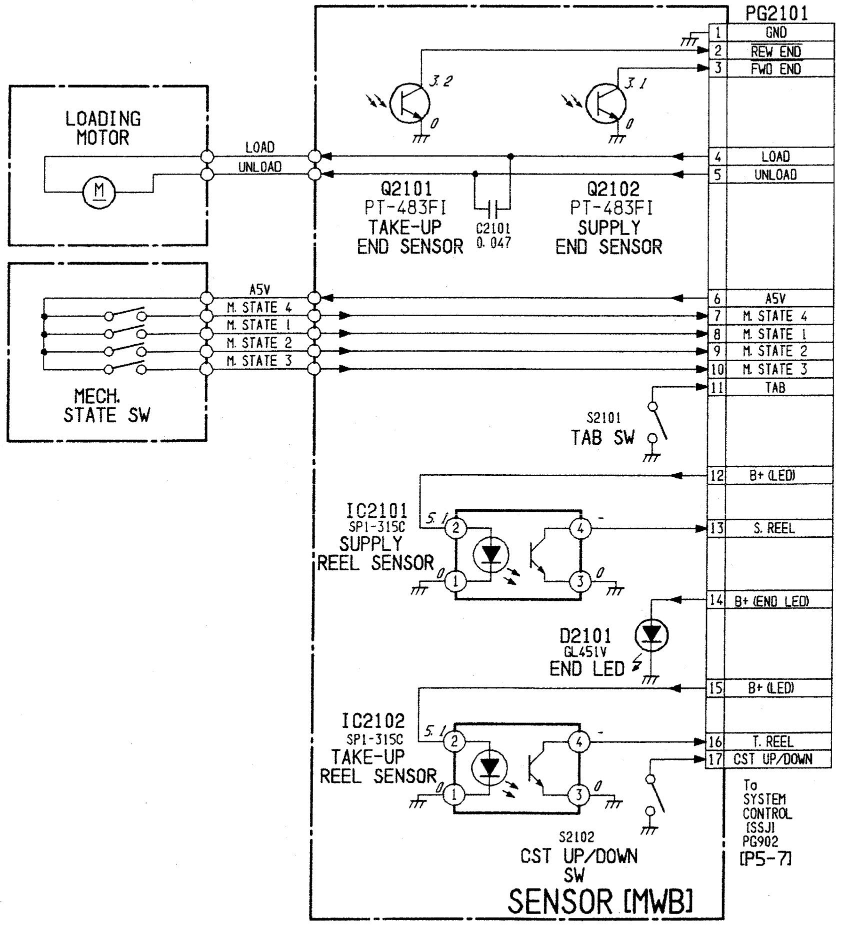
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT

WAVEFORMS No. ○

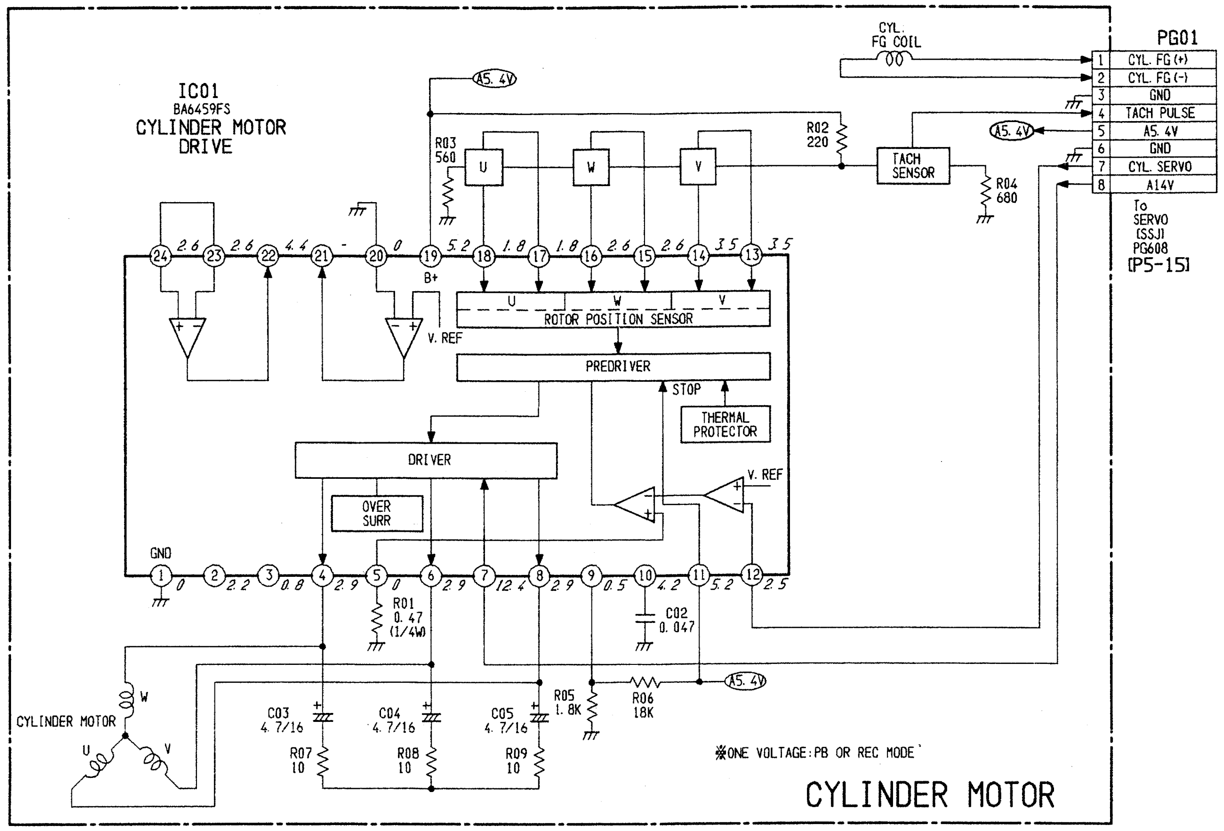
SERVO WAVEFORMS



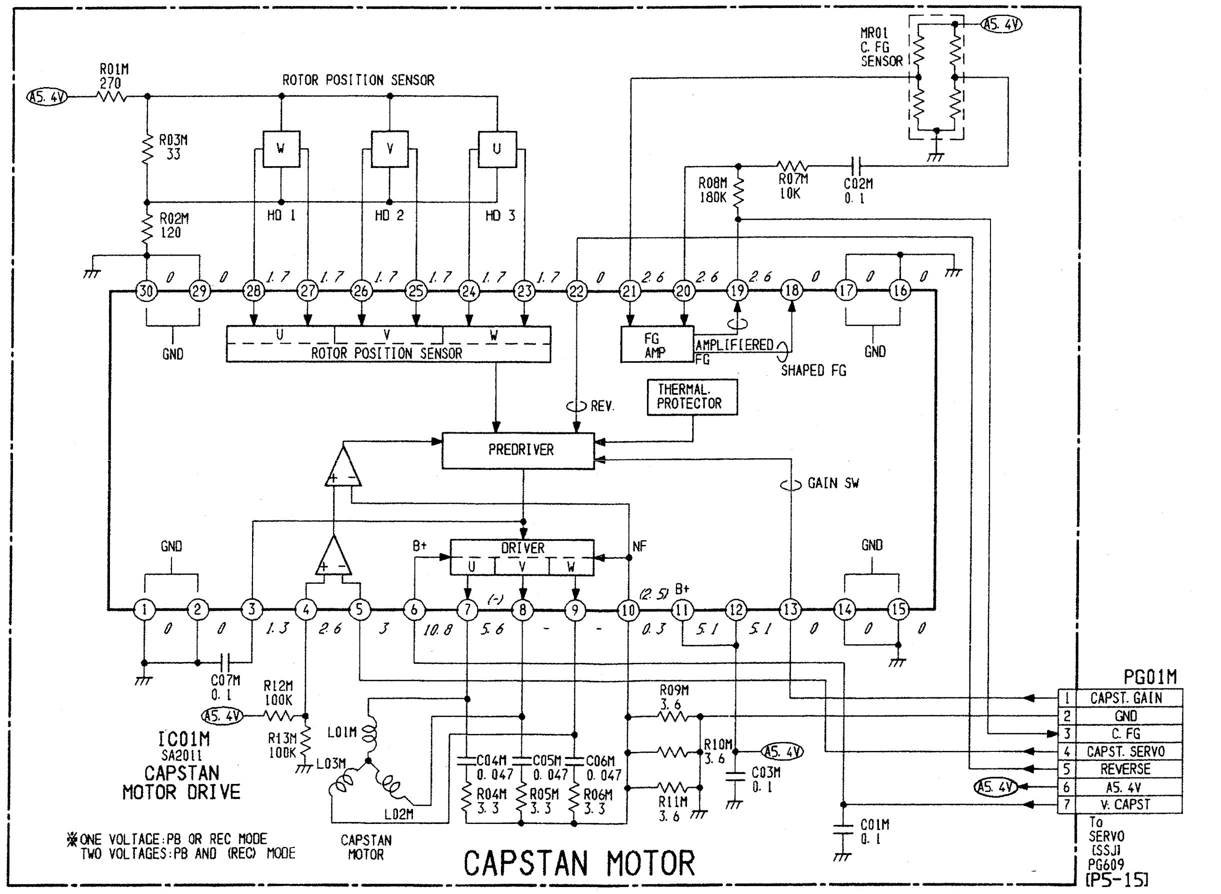
SENSOR [MWB] SCHEMATIC DIAGRAM


PG2101
1 GND
2 REW END
3 FWD END
4 LOAD
5 UNLOAD
6 A5V
7 M. STATE 4
8 M. STATE 1
9 M. STATE 2
10 M. STATE 3
11 TAB
12 B+ (LED)
13 S. REEL
14 B+ (END LED)
15 B+ (LED)
16 T. REEL
17 CST UP/DOWN
LOADING MOTOR
M
LOAD
UNLOAD
Q2101
PT-483FI
TAKE-UP
END SENSOR
C2101
0.047
Q2102
PT-483FI
SUPPLY
END SENSOR
3.2
3.1
0
A5V
M. STATE 4
M. STATE 1
M. STATE 2
M. STATE 3
MECH.
STATE SW
S2101
TAB SW
IC2101
SP1-315C
SUPPLY
REEL SENSOR
5.1
D2101
GL451V
END LED
IC2102
SP1-315C
TAKE-UP
REEL SENSOR
S2102
CST UP/DOWN
SW
To
SYSTEM
CONTROL
[SSJ]
PG902
[P5-7]
SENSOR [MWB]

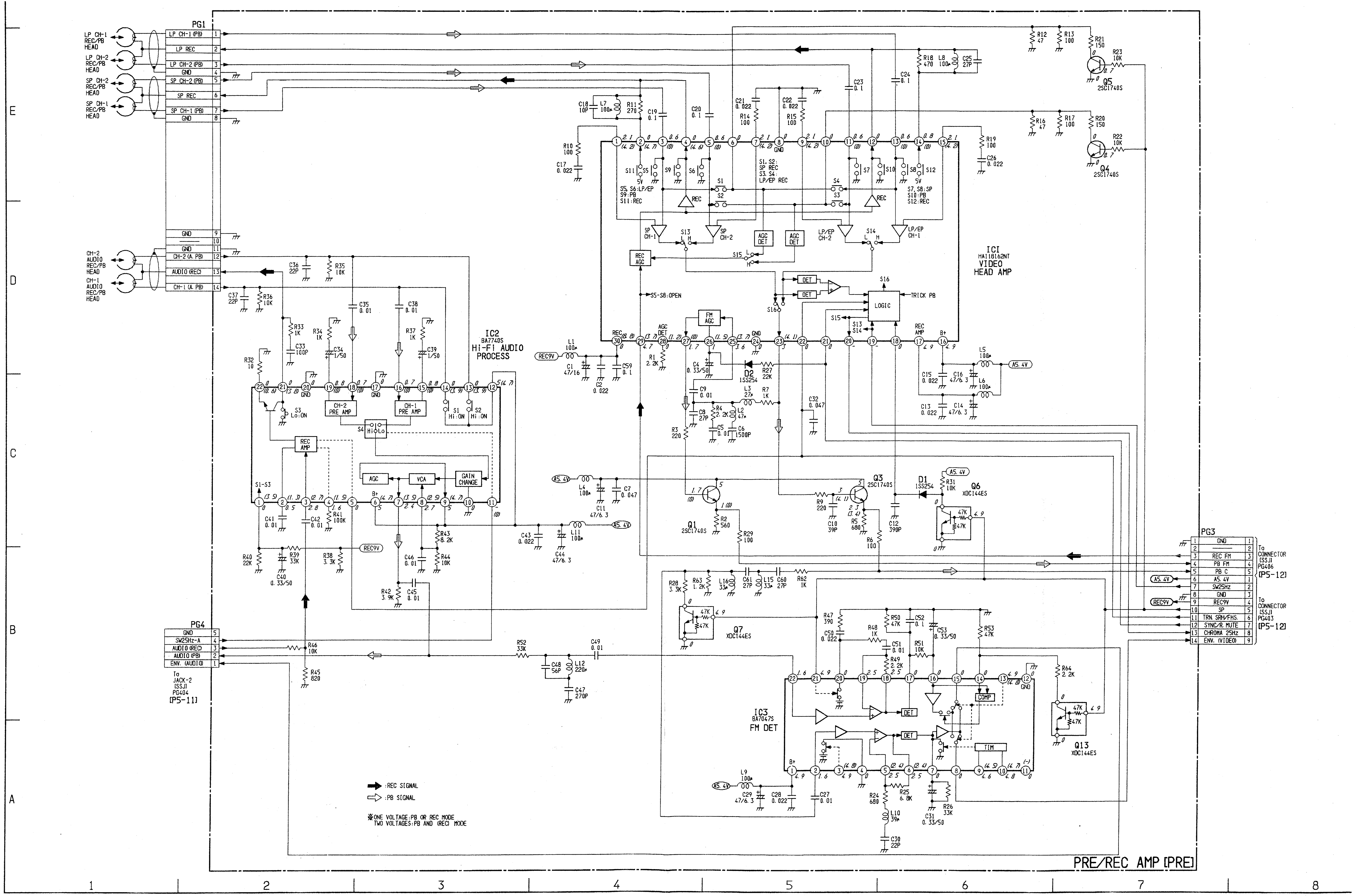
CYLINDER MOTOR SCHEMATIC DIAGRAM


IC01
BA6459FS
CYLINDER MOTOR
DRIVE
CYL.
FG COIL
PG01
1 CYL. FG (+)
2 CYL. FG (-)
3 GND
4 TACH PULSE
5 A5.4V
6 GND
7 CYL. SERVO
8 A14V
To
SERVO
[SSJ]
PG608
[P5-15]
A5.4V
R03
560
U
W
V
R02
220
TACH
SENSOR
R04
680
2.6
2.6
4.4
-
0
5.2
1.8
1.8
2.6
2.6
3.5
3.5
B+
V. REF
ROTOR POSITION SENSOR
PREDRIVER
STOP
THERMAL
PROTECTOR
DRIVER
OVER
SURR
GND
0
2.2
0.8
2.9
0
2.9
12.4
2.9
0.5
4.2
5.2
2.5
R01
0.47
(1/4W)
C02
0.047
CYLINDER MOTOR
C03
4.7/16
C04
4.7/16
C05
4.7/16
R05
1.8K
R06
18K
R07
10
R08
10
R09
10
※ONE VOLTAGE:PB OR REC MODE
CYLINDER MOTOR

CAPSTAN MOTOR SCHEMATIC DIAGRAM


MR01
C. FG
SENSOR
A5.4V
R01M
270
ROTOR POSITION SENSOR
R03M
33
W
V
U
HD 1
HD 2
HD 3
R02M
120
R08M
180K
R07M
10K
C02M
0.1
0
0
1.7
1.7
1.7
1.7
1.7
1.7
0
2.6
2.6
2.6
0
0
0
GND
ROTOR POSITION SENSOR
FG
AMP
AMPLIFIERED
FG
SHAPED FG
REV.
THERMAL.
PROTECTOR
PREDRIVER
GAIN SW
B+
DRIVER
NF
(2.5)
(-)
0
0
1.3
2.6
3
10.8
5.6
-
-
0.3
5.1
5.1
0
0
0
C07M
0.1
R12M
100K
R13M
100K
L01M
L03M
L02M
C04M
0.047
C05M
0.047
C06M
0.047
R04M
3.3
R05M
3.3
R06M
3.3
R09M
3.6
R10M
3.6
R11M
3.6
C03M
0.1
C01M
0.1
IC01M
SA2011
CAPSTAN
MOTOR DRIVE
CAPSTAN
MOTOR
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
PG01M
1 CAPST. GAIN
2 GND
3 C. FG
4 CAPST. SERVO
5 REVERSE
6 A5.4V
7 V. CAPST
To
SERVO
[SSJ]
PG609
[P5-15]
CAPSTAN MOTOR

PRE/REC AMP [PRE] SCHEMATIC DIAGRAM

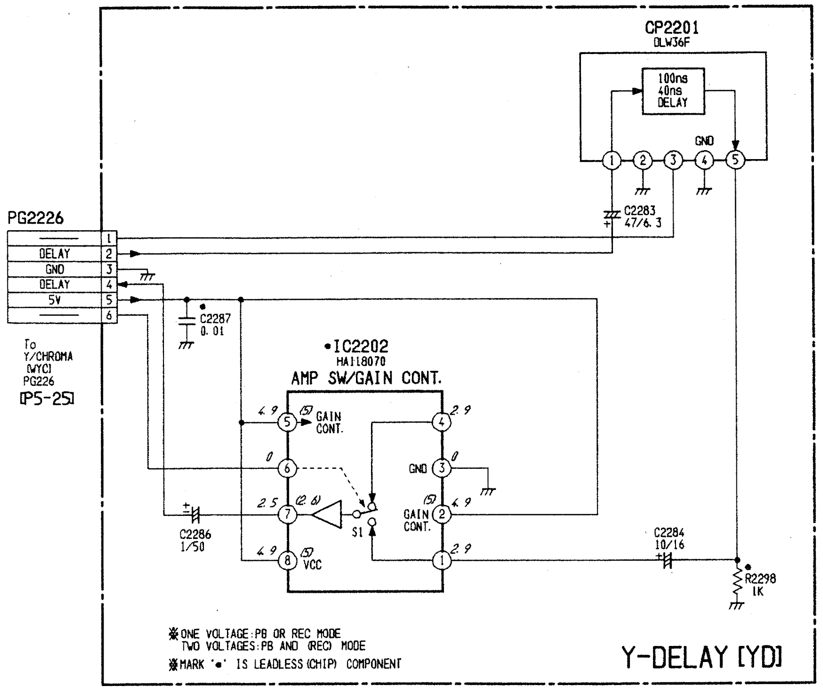

PG1
LP CH-1 REC/PB HEAD
LP CH-2 REC/PB HEAD
SP CH-2 REC/PB HEAD
SP CH-1 REC/PB HEAD
1 LP CH-1 (PB)
2 LP REC
3 LP CH-2 (PB)
4 GND
5 SP CH-2 (PB)
6 SP REC
7 SP CH-1 (PB)
8 GND
9 GND
10
11 GND
12 CH-2 (A. PB)
13 AUDIO (REC)
14 CH-1 (A. PB)
CH-2 AUDIO REC/PB HEAD
CH-1 AUDIO REC/PB HEAD
IC1
HA118162NT
VIDEO HEAD AMP
S5, S6: LP/EP
S9: PB
S11: REC
S1, S2: SP REC
S3, S4: LP/EP REC
S7, S8: SP
S10: PB
S12: REC
REC AGC
AGC DET
FM AGC
DET
LOGIC
TRICK PB
S5-S8: OPEN
REC AMP
B+
Q5 2SC1740S
Q4 2SC1740S
Q1 2SC1740S
Q3 2SC1740S
Q6 XDC144ES
Q7 XDC144ES
Q13 XDC144ES
D1 1SS254
D2 1SS254
IC2
BA7740S
HI-FI AUDIO PROCESS
CH-2 PRE AMP
CH-1 PRE AMP
S1 Hi:ON
S2 Hi:ON
S3 Lo:ON
S4 Hi Lo
S1-S3
AGC
VCA
GAIN CHANGE
IC3
BA7047S
FM DET
COMP
TIM
REC9V
A5.4V
PG4
5 GND
4 SW25Hz-A
3 AUDIO (REC)
2 AUDIO (PB)
1 ENV. (AUDIO)
To JACK-2 (SSJ) PG404 [P5-11]
PG3
1 GND
2
3 REC FM
4 PB FM
5 PB C
6 A5.4V
7 SW25Hz
8 GND
9 REC9V
10 SP
11 TRN SRH/FHS.
12 SYNC/R.MUTE
13 CHROMA 25Hz
14 ENV. (VIDEO)
To CONNECTOR (SSJ) PG406 [P5-12]
To CONNECTOR (SSJ) PG403 [P5-12]
PRE/REC AMP [PRE]
A
B
C
D
E
1
2
3
4
5
6
7
8

:REC SIGNAL

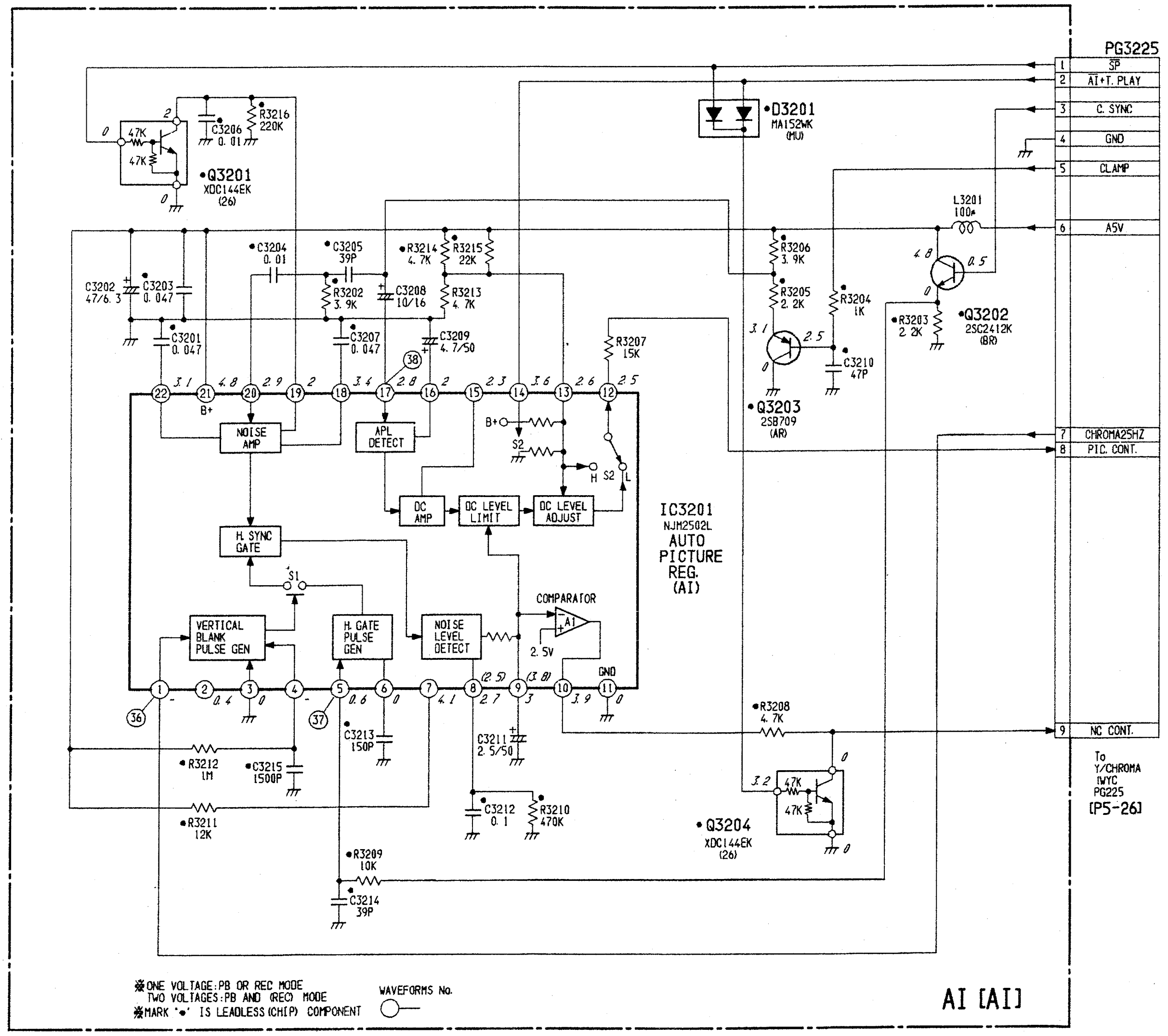
:PB SIGNAL

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE

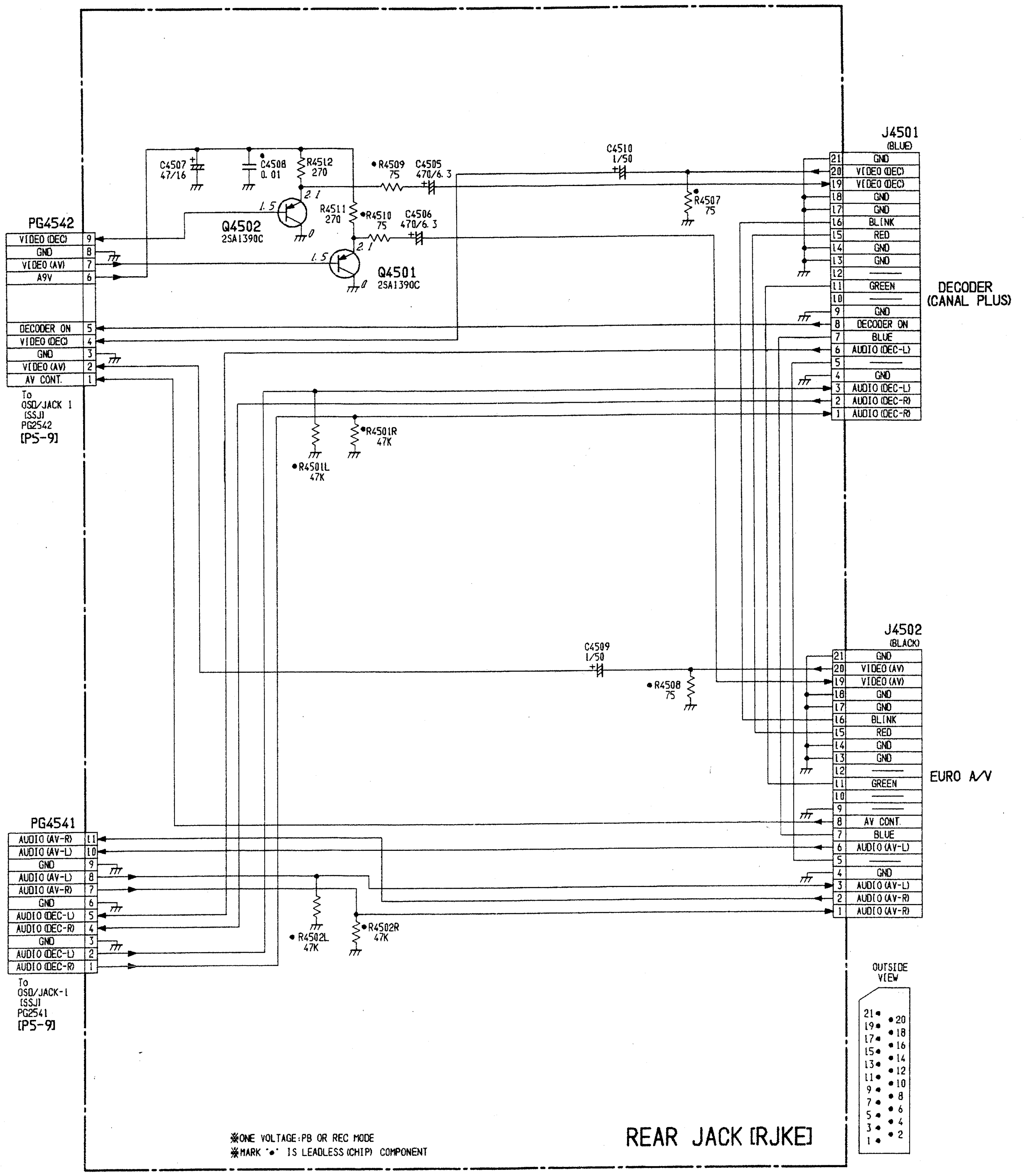
Y-DELAY [YD] SCHEMATIC DIAGRAM


CP2201
DLW36F
100ns
40ns
DELAY
GND
C2283
47/6.3
PG2226
DELAY
GND
DELAY
5V
To
Y/CHROMA
(WYC)
PG226
[P5-25]
C2287
0.01
•IC2202
HA118070
AMP SW/GAIN CONT.
GAIN CONT.
GAIN CONT.
GND
S1
VCC
C2286
1/50
C2284
10/16
•R2298
1K
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS(CHIP) COMPONENT
Y-DELAY [YD]

AI [AI] SCHEMATIC DIAGRAM


PG3225
SP
AI+T.PLAY
C.SYNC
GND
CLAMP
A5V
CHROMA25HZ
PIC.CONT.
NC CONT.
To
Y/CHROMA
(WYC)
PG225
[P5-26]
•R3216
220K
C3206
0.01
•Q3201
XDC144EK
(26)
47K
47K
•D3201
MA152WK
(MJ)
L3201
100μ
C3202
47/6.3
C3203
0.047
C3201
0.047
•C3204
0.01
•C3205
39P
•R3202
3.9K
•C3207
0.047
•R3214
4.7K
R3215
22K
C3208
10/16
R3213
4.7K
C3209
4.7/50
•R3206
3.9K
•R3205
2.2K
R3204
1K
•R3203
2.2K
•Q3202
2SC2412K
(BR)
C3210
47P
•Q3203
2SB709
(AR)
R3207
15K
NOISE AMP
APL DETECT
DC AMP
DC LEVEL LIMIT
DC LEVEL ADJUST
S2
H S2 L
B+
IC3201
NJM2502L
AUTO PICTURE REG.
(AI)
H. SYNC GATE
S1
VERTICAL BLANK PULSE GEN
H. GATE PULSE GEN
NOISE LEVEL DETECT
COMPARATOR
2.5V
GND
C3213
150P
C3211
2.5/50
•C3212
0.1
R3210
470K
•R3208
4.7K
•Q3204
XDC144EK
(26)
•R3212
1M
•C3215
1500P
•R3211
12K
•R3209
10K
•C3214
39P
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS(CHIP) COMPONENT
WAVEFORMS No.
AI [AI]

REAR JACK [RJKE] SCHEMATIC DIAGRAM

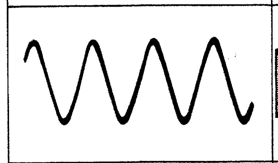

J4501
(BLUE)
GND
VIDEO (DEC)
VIDEO (DEC)
GND
GND
BLINK
RED
GND
GND
GREEN
GND
DECODER ON
BLUE
AUDIO (DEC-L)
GND
AUDIO (DEC-L)
AUDIO (DEC-R)
AUDIO (DEC-R)
DECODER
(CANAL PLUS)
C4507
47/16
C4508
0.01
R4512
270
•R4509
75
C4505
470/6.3
C4510
1/50
•R4507
75
R4511
270
•R4510
75
C4506
470/6.3
Q4502
2SA1390C
Q4501
2SA1390C
PG4542
VIDEO (DEC)
GND
VIDEO (AV)
A9V
DECODER ON
VIDEO (DEC)
GND
VIDEO (AV)
AV CONT.
To
OSD/JACK 1
(SSJ)
PG2542
[P5-9]
•R4501R
47K
•R4501L
47K
J4502
(BLACK)
GND
VIDEO (AV)
VIDEO (AV)
GND
GND
BLINK
RED
GND
GND
GREEN
GND
AV CONT.
BLUE
AUDIO (AV-L)
GND
AUDIO (AV-L)
AUDIO (AV-R)
AUDIO (AV-R)
EURO A/V
C4509
1/50
•R4508
75
PG4541
AUDIO (AV-R)
AUDIO (AV-L)
GND
AUDIO (AV-L)
AUDIO (AV-R)
GND
AUDIO (DEC-L)
AUDIO (DEC-R)
GND
AUDIO (DEC-L)
AUDIO (DEC-R)
To
OSD/JACK-1
(SSJ)
PG2541
[P5-9]
•R4502L
47K
•R4502R
47K
OUTSIDE VIEW
※ONE VOLTAGE:PB OR REC MODE
※MARK '•' IS LEADLESS(CHIP) COMPONENT
REAR JACK [RJKE]

E
D
C
B
A

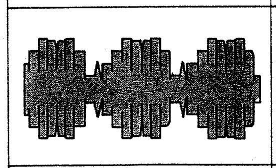
1 2 3 4 5 6 7 8

VIDEO WAVEFORMS

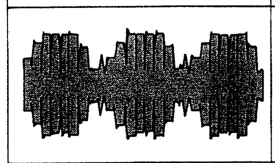
1 – A IC201 – 5 320mVp-p
0.1V／50.0nsec. cm
REC／PLAY



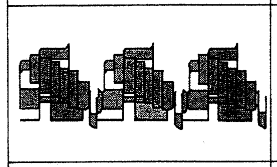
2 – A IC201 – 9 380mVp-p
0.1V／20.0 μ sec. cm
REC



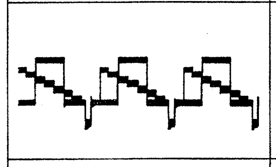
3 – A IC201 – 9 200mVp-p
50mV／20.0 μ sec.cm
PLAY



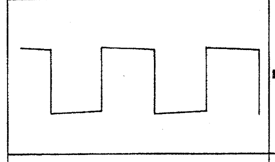
4 – A IC201 – 16 550mVp-p
0.2V／20.0 μ sec. cm
REC



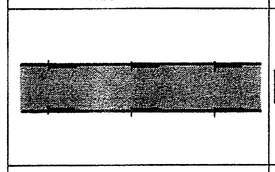
5 – A IC201 – 16 550mVp-p
0.2V／20.0 μ sec. cm
PLAY



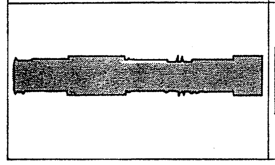
6 – A IC201 – 19 1.3Vp-p
0.5V／10.0msec. cm
REC／PLAY



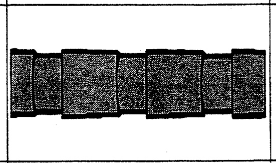
7 – A IC201 – 20 1Vp-p
0.5V／20.0 μ sec. cm
REC



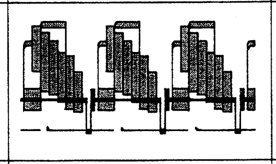
8 – A IC201 – 21 80mVp-p
50mV／10.0 μ sec. cm
REC



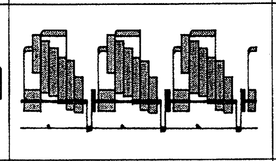
9 – A IC201 – 21 550mVp-p
0.2V／20.0 μ sec. cm
PLAY



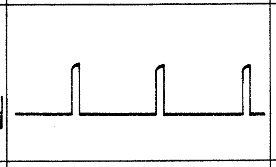
10 – A IC201 – 23 1Vp-p
0.5V／20.0 μ sec. cm
REC／PLAY



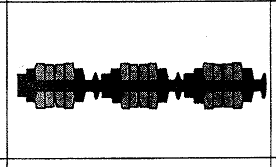
11 – A IC201 – 26 2.1Vp-p
1V／20.0 μ sec. cm
REC／PLAY



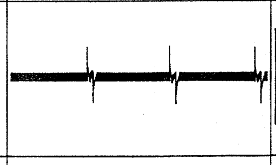
12 – A IC201 – 28 4.0Vp-p
2V／20.0 μ sec. cm
REC／PLAY



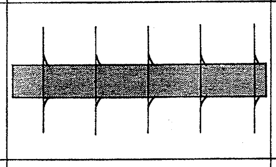
13 – A IC201 – 32 200mVp-p
0.1V／20.0 μ sec. cm
REC／PLAY



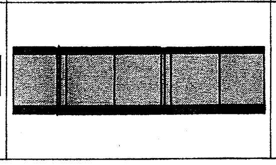
14 – A IC201 – 38 110mVp-p
50mV／20.0 μ sec. cm
REC／PLAY



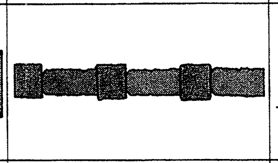
26 – A IC203 – 1 70mVp-p
50mV／20.0 μ sec. cm
REC



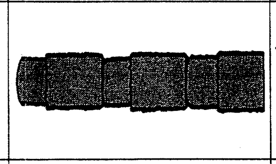
27 – A IC203 – 1 550mVp-p
0.2V／5.0msec. cm
PLAY



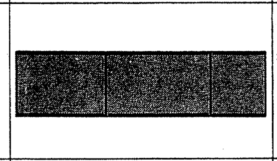
28 – A IC203 – 3 70mVp-p
50mV／20.0 μ sec. cm
REC



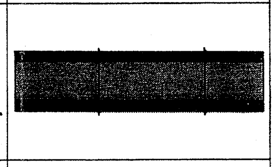
29 – A IC203 – 3 500mVp-p
0.2V／20.0 μ sec. cm
PLAY



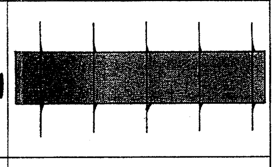
30 – A IC203 – 8 530mVp-p
0.2V／10.0 μ sec. cm
REC／PLAY



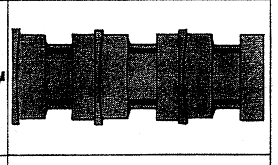
31 – A IC203 – 9 440mVp-p
0.2V／20.0 μ sec. cm
REC



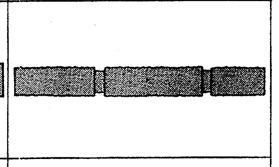
32 – A IC203 – 10 40mVp-p
20mV／20.0 μ sec. cm
REC



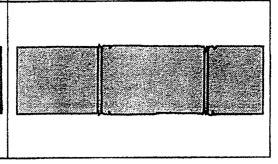
33 – A IC203 – 10 360mVp-p
0.1V／20.0 μ sec. cm
PLAY



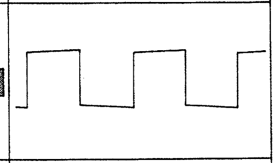
34 – A IC203 – 16 70mVp-p
50mV／5.0msec. cm
REC



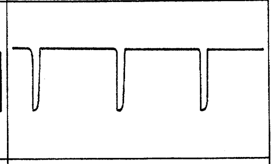
35 – A IC203 – 16 550mVp-p
0.2V／5.0msec. cm
PLAY



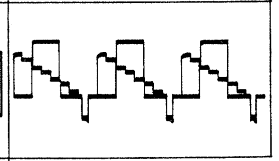
36 – A IC3201 – 1 4.7Vp-p
2V／10.0msec. cm
REC／PLAY



37 – A IC3201 – 5 2.5Vp-p
1V／20.0 μ sec. cm
REC／PLAY



38 – A IC3201 – 17 310mVp-p
0.1V／20.0 μ sec. cm
REC／PLAY



E

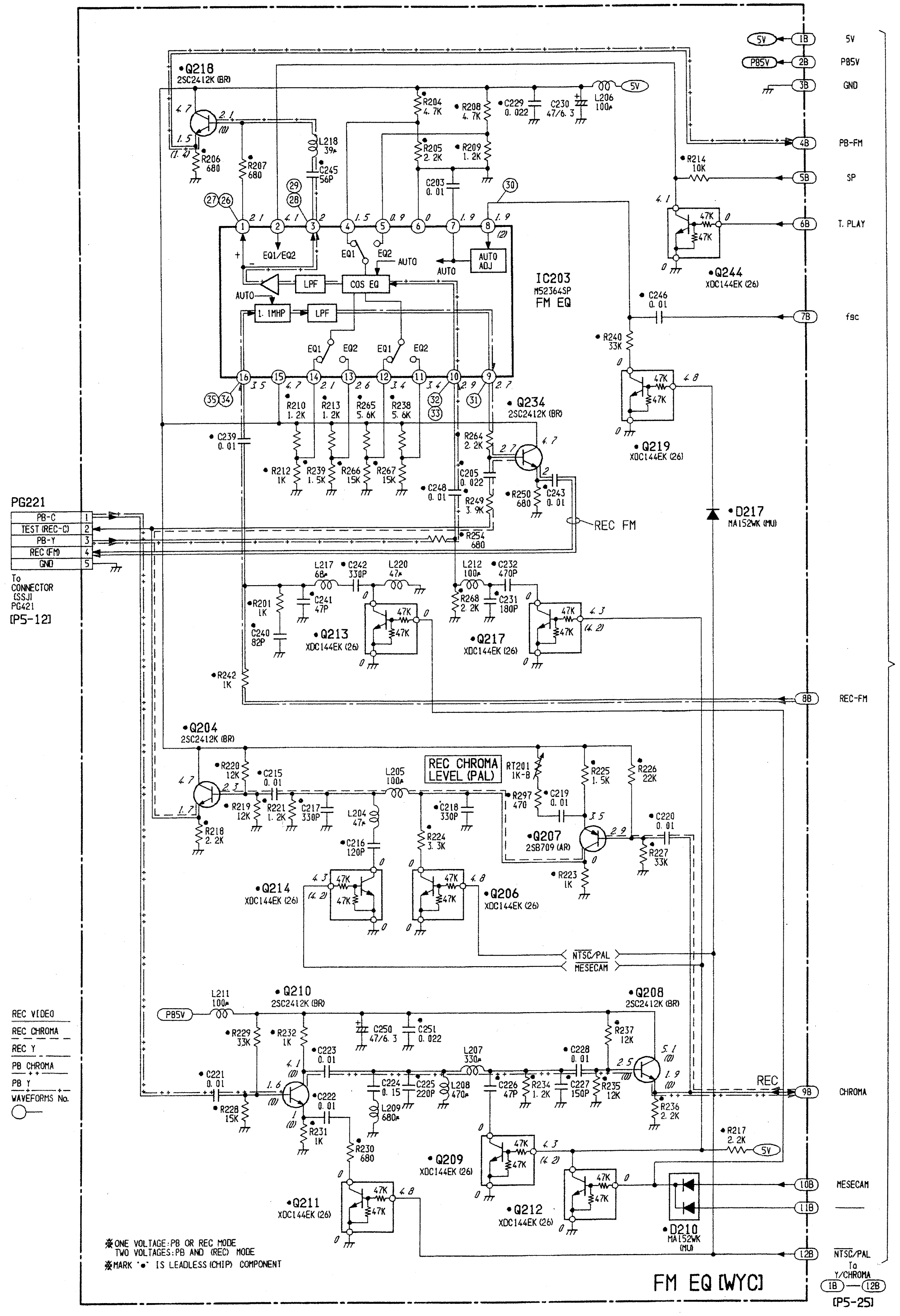
D

C

B

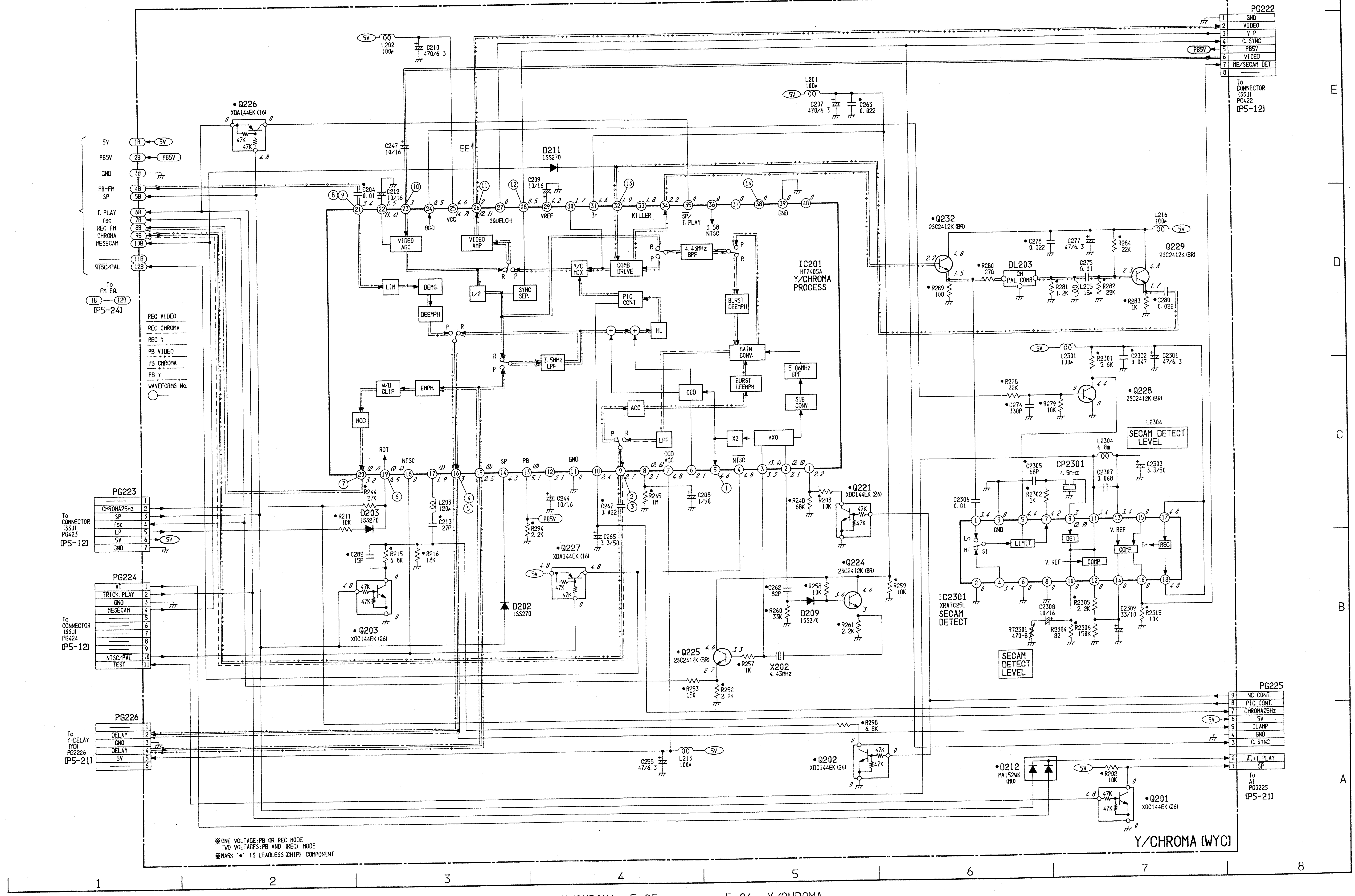
A

FM EQ [WYC] SCHEMATIC DIAGRAM


Q218
2SC2412K (BR)
IC203
M52364SP
FM EQ
EQ1/EQ2
LPF
COS EQ
1.1MHP
AUTO ADJ
Q234
2SC2412K (BR)
Q244
XDC144EK (26)
Q219
XDC144EK (26)
D217
MA152WK (MU)
REC FM
PG221
PB-C
TEST (REC-C)
PB-Y
REC (FM)
GND
To CONNECTOR (SSJ) PG421
[P5-12]
Q213
XDC144EK (26)
Q217
XDC144EK (26)
Q204
2SC2412K (BR)
REC CHROMA LEVEL (PAL)
RT201 1K-B
Q207
2SB709 (AR)
Q214
XDC144EK (26)
Q206
XDC144EK (26)
NTSC/PAL
MESECAM
Q210
2SC2412K (BR)
Q208
2SC2412K (BR)
PB5V
Q209
XDC144EK (26)
Q211
XDC144EK (26)
Q212
XDC144EK (26)
D210
MA152WK (MU)
REC
5V
PB5V
GND
PB-FM
SP
T. PLAY
fsc
REC-FM
CHROMA
MESECAM
NTSC/PAL
To Y/CHROMA
[P5-25]
REC VIDEO
REC CHROMA
REC Y
PB CHROMA
PB Y
WAVEFORMS No.
※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK "•" IS LEADLESS (CHIP) COMPONENT
FM EQ [WYC]

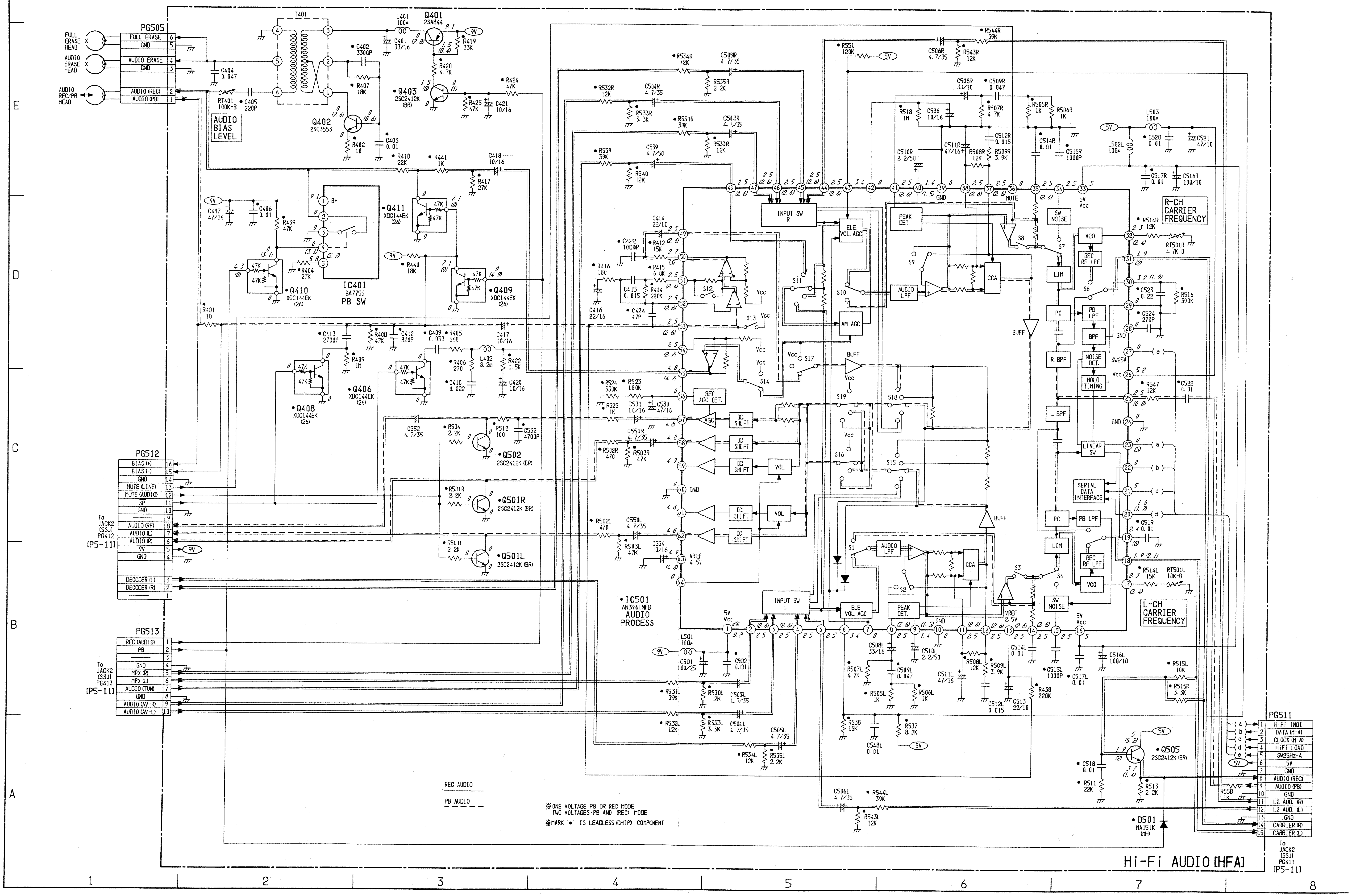
1 2 3 4 5 6 7 8

Y/CHROMA [WYC] SCHEMATIC DIAGRAM


PG222
1 GND
2 VIDEO
3 V P
4 C. SYNC
5 PB5V
6 VIDEO
7 ME/SECAM DET
To CONNECTOR (SSJ) PG422 [P5-12]
5V
PB5V
GND
PB-FM SP
T. PLAY
fsc
REC FM
CHROMA
MESECAM
NTSC/PAL
To FM EQ.
[P5-24]
REC VIDEO
REC CHROMA
REC Y
PB VIDEO
PB CHROMA
PB Y
WAVEFORMS No.
•Q226 XDA144EK (16)
L202 100μ
C210 470/6.3
C247 10/16
EE
D211 1SS270
C209 10/16
C204 0.01
C212 10/16
VIDEO AGC
VIDEO AMP
BGD
VCC
SQUELCH
VREF
B+
KILLER
SP/T. PLAY
3.58 NTSC
GND
Y/C MIX
COMB DRIVE
4.43MHz BPF
IC201 HT7405A Y/CHROMA PROCESS
LIM
DEMO.
DEEMPH
1/2
SYNC SEP.
PIC. CONT.
BURST DEEMPH
HL
3.5MHz LPF
MAIN CONV.
W/D CLIP
EMPH
MOD
CCD
BURST DEEMPH
5.06MHz BPF
ACC
SUB CONV.
LPF
X2
VXO
ROT
NTSC
SP
PB
GND
CCD VCC
NTSC
L201 100μ
C207 470/6.3
C263 0.022
•Q232 2SC2412K (BR)
•R280 270
DL203 2H PAL COMB
•R289 100
•C278 0.022
C277 47/6.3
C275 0.01
•R281 1.2K
L215 15μ
•R282 22K
R284 22K
L216 100μ
Q229 2SC2412K (BR)
•R283 1K
•C280 0.022
L2301 100μ
R2301 5.6K
C2302 0.047
C2301 47/6.3
•R278 22K
•C274 330P
•R279 10K
•Q228 2SC2412K (BR)
L2304
SECAM DETECT LEVEL
L2304 6.8m
C2305 68P
CP2301 4.5MHz
C2307 0.068
C2303 3.3/50
C2306 0.01
R2302 1K
Lo Hi S1
LIMIT
DET
V. REF
COMP
B+
REG
IC2301 XRA7025L SECAM DETECT
C2308 10/16
RT2301 470-B
R2304 82
R2305 2.2K
R2306 150K
C2309 33/10
R2315 10K
SECAM DETECT LEVEL
PG223
CHROMA25Hz
SP
fsc
LP
5V
GND
To CONNECTOR (SSJ) PG423 [P5-12]
•R211 10K
D203 1SS270
R244 27K
L203 120μ
C213 27P
•C282 15P
•R215 6.8K
•R216 18K
•Q203 XDC144EK (26)
D202 1SS270
C244 10/16
PB5V
•R294 2.2K
•Q227 XDA144EK (16)
C267 0.022
C265 3.3/50
R245 1M
C208 1/50
•R248 68K
R203 10K
•Q221 XDC144EK (26)
•Q224 2SC2412K (BR)
•C262 82P
•R258 10K
D209 1SS270
•R260 33K
•R261 2.2K
R259 10K
•Q225 2SC2412K (BR)
•R257 1K
X202 4.43MHz
•R253 150
•R252 2.2K
PG224
AI
TRICK. PLAY
GND
MESECAM
NTSC/PAL
TEST
To CONNECTOR (SSJ) PG424 [P5-12]
PG226
DELAY
GND
DELAY
5V
To Y-DELAY (YD) PG2226 [P5-21]
C255 47/6.3
L213 100μ
•R298 6.8K
•Q202 XDC144EK (26)
•D212 MA152WK (MU)
•R202 10K
•Q201 XDC144EK (26)
PG225
NC CONT.
PIC. CONT.
CHROMA25Hz
5V
CLAMP
GND
C. SYNC
AI+T. PLAY
SP
To AI PG3225 [P5-21]
Y/CHROMA [WYC]
1
2
3
4
5
6
7
8
A
B
C
D
E

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
※MARK '•' IS LEADLESS(CHIP) COMPONENT

Hi-Fi AUDIO [HFA] SCHEMATIC DIAGRAM


PG505
FULL ERASE HEAD
AUDIO ERASE HEAD
AUDIO REC/PB HEAD
FULL ERASE
GND
AUDIO ERASE
AUDIO (REC)
AUDIO (PB)
T401
L401 100µ
Q401 2SA844
C401 33/16
R419 33K
C402 3300P
R420 4.7K
•Q403 2SC2412K (BR)
R407 18K
C404 0.047
RT401 100K-B
C405 220P
Q402 2SC3553
R402 10
C403 0.01
R424 47K
R425 47K
C421 10/16
AUDIO BIAS LEVEL
R410 22K
R441 1K
C418 10/16
R417 27K
C407 47/16
C406 0.01
R439 47K
IC401 BA7755 PB SW
•Q411 XDC144EK (26)
R404 27K
R440 18K
•Q410 XDC144EK (26)
•Q409 XDC144EK (26)
R401 10
C413 2700P
R408 47K
C412 820P
C409 0.033
R405 560
C417 10/16
R409 1M
R406 270
L402 8.2m
R422 1.5K
C410 0.022
C420 10/16
•Q406 XDC144EK (26)
•Q408 XDC144EK (26)
C552 4.7/35
R504 2.2K
R512 100
C532 4700P
•Q502 2SC2412K (BR)
R501R 2.2K
•Q501R 2SC2412K (BR)
R501L 2.2K
•Q501L 2SC2412K (BR)
PG512
BIAS (+)
BIAS (−)
GND
MUTE (LINE)
MUTE (AUDIO)
SP
AUDIO (RF)
AUDIO (L)
AUDIO (R)
9V
DECODER (L)
DECODER (R)
To JACK2 (SSJ) PG412 [P5-11]
PG513
REC (AUDIO)
PB
MPX (R)
MPX (L)
AUDIO (TUN)
AUDIO (AV-R)
AUDIO (AV-L)
To JACK2 (SSJ) PG413 [P5-11]
•IC501 AN3961NFB AUDIO PROCESS
INPUT SW R
INPUT SW L
ELE. VOL. AGC
PEAK DET.
AUDIO LPF
CCA
AM AGC
REC AGC DET.
AGC
DC SHIFT
VOL
BUFF
SW NOISE
VCO
REC RF LPF
LIM
PC
PB LPF
BPF
NOISE DET.
HOLD TIMING
R BPF
L BPF
LINEAR SW
SERIAL DATA INTERFACE
MUTE
VREF 4.5V
VREF 2.5V
R-CH CARRIER FREQUENCY
L-CH CARRIER FREQUENCY
RT501R 4.7K-B
RT501L 10K-B
R514R 12K
R514L 15K
R516 390K
C523 0.22
C524 270P
C522 0.01
R547 12K
C519 0.01
L503 100µ
L502L 100µ
C520 0.01
C521 47/10
C517R 0.01
C516R 100/10
L501 100µ
C501 100/25
C502 0.01
C516L 100/10
R515L 10K
R515R 3.3K
•Q505 2SC2412K (BR)
C518 0.01
R511 22K
R513 2.2K
•D501 MA151K (MH)
R558 1K
PG511
HiFi INDI.
DATA (M-A)
CLOCK (M-A)
HiFi LOAD
SW25Hz-A
5V
GND
AUDIO (REC)
AUDIO (PB)
L2 AUD. (R)
L2 AUD. (L)
CARRIER (R)
CARRIER (L)
To JACK2 (SSJ) PG411 [P5-11]
R534R 12K
C505R 4.7/35
R535R 2.2K
R532R 12K
C504R 4.7/35
R533R 3.3K
R531R 39K
C503R 4.7/35
R530R 12K
R539 39K
C539 4.7/50
R540 12K
R551 120K
R544R 39K
C506R 4.7/35
R543R 12K
C508R 33/10
C509R 0.047
R518 1M
C536 10/16
R507R 4.7K
R505R 1K
R506R 1K
C510R 2.2/50
C511R 47/16
C512R 0.015
R508R 12K
R509R 3.9K
C514R 0.01
C515R 1000P
C414 22/10
C422 1000P
R412 15K
R416 180
R415 6.8K
R414 220K
C415 0.015
C416 22/16
C424 47P
R524 330K
R523 180K
R525 1K
C531 10/16
C530 47/16
C550R 4.7/35
R502R 470
R503R 47K
R502L 470
C550L 4.7/35
R503L 47K
C534 10/16
R531L 39K
R530L 12K
C503L 4.7/35
R532L 12K
R533L 3.3K
C504L 4.7/35
C505L 4.7/35
R534L 12K
R535L 2.2K
C506L 4.7/35
R544L 39K
R543L 12K
C508L 33/16
C510L 2.2/50
R507L 4.7K
C509L 0.047
R505L 1K
R506L 1K
C511L 47/16
R508L 12K
R509L 3.9K
C512L 0.015
C513 22/10
R438 220K
C514L 0.01
C515L 1000P
C517L 0.01
R538 15K
C548L 0.01
R537 8.2K
1
2
3
4
5
6
7
8
A
B
C
D
E
Hi-Fi AUDIO [HFA]

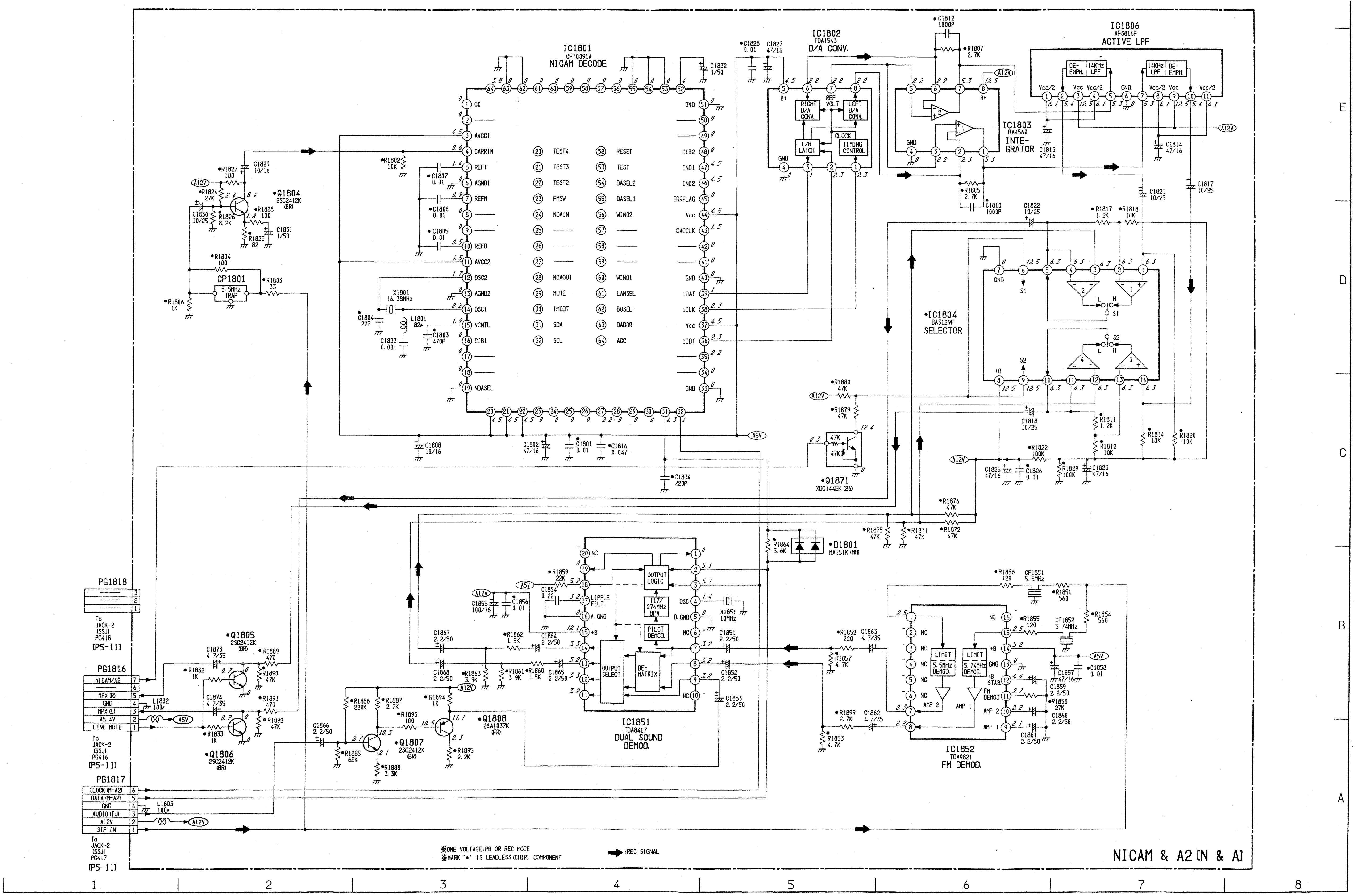
REC AUDIO

PB AUDIO

※ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE

※MARK "•" IS LEADLESS (CHIP) COMPONENT

NICAM & A2 [N & A] SCHEMATIC DIAGRAM

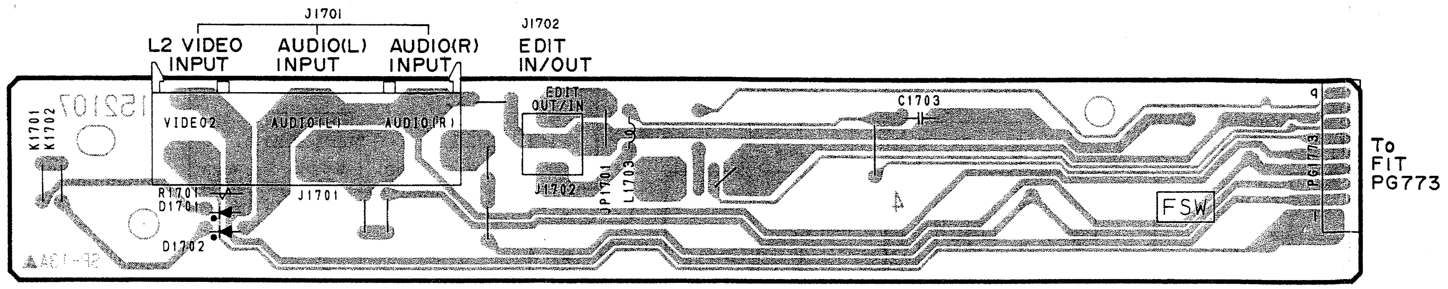


IC1801
CF70091A
NICAM DECODE
IC1802
TDA1543
D/A CONV.
RIGHT D/A CONV.
REF VOLT
LEFT D/A CONV.
L/R LATCH
CLOCK
TIMING CONTROL
IC1803
BA4560
INTE-GRATOR
IC1806
AF5816F
ACTIVE LPF
DE-EMPH.
14KHz LPF
•IC1804
BA3129F
SELECTOR
IC1851
TDA8417
DUAL SOUND DEMOD.
OUTPUT LOGIC
OUTPUT SELECT
DE-MATRIX
11.7/274MHz BPA
PILOT DEMOD.
LIPPLE FILT.
IC1852
TDA9821
FM DEMOD.
LIMIT 5.5MHz DEMOD.
LIMIT 5.74MHz DEMOD.
•Q1804
2SC2412K (BR)
•Q1805
2SC2412K (BR)
•Q1806
2SC2412K (BR)
•Q1807
2SC2412K (BR)
•Q1808
2SA1037K (FR)
•Q1871
XDC144EK (26)
•D1801
MA151K (MH)
CP1801
5.5MHz TRAP
X1801
16.38MHz
X1851
10MHz
CF1851
5.5MHz
CF1852
5.74MHz
A12V
A5V
PG1818
To JACK-2 (SS)) PG418 [P5-11]
PG1816
NICAM/A2
MPX (R)
GND
MPX (L)
A5.4V
LINE MUTE
To JACK-2 (SS)) PG416 [P5-11]
PG1817
CLOCK (M-A2)
DATA (M-A2)
GND
AUDIO (TU)
A12V
SIF IN
To JACK-2 (SS)) PG417 [P5-11]
NICAM & A2 [N & A]
1
2
3
4
5
6
7
8
A
B
C
D
E

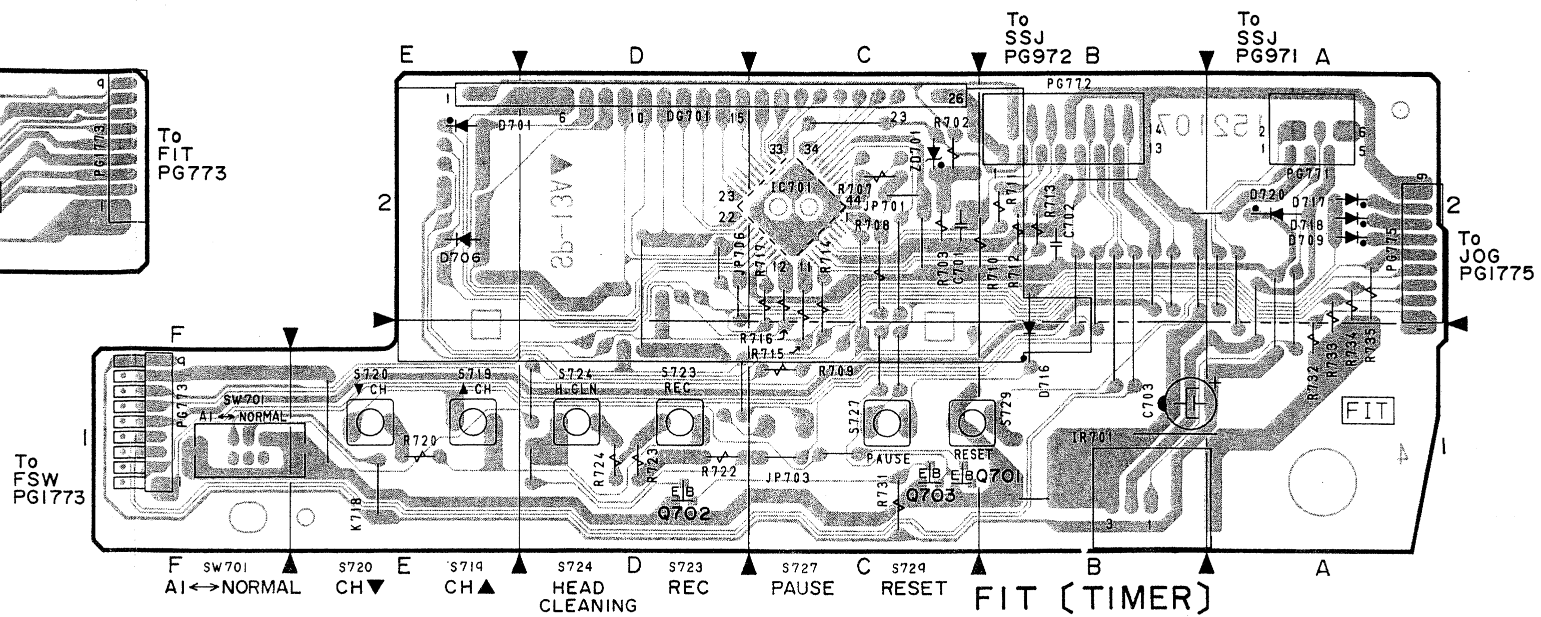
※ONE VOLTAGE:PB OR REC MODE
※MARK "•" IS LEADLESS(CHIP) COMPONENT

:REC SIGNAL

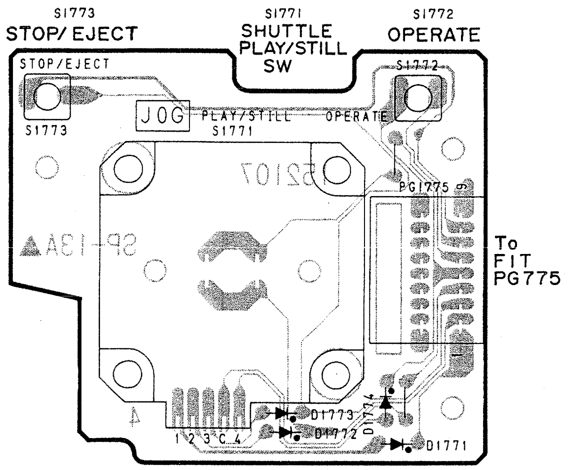
FSW. STL. RJKE. AI. FIT. CAP CIRCUIT BOARDS


J1701
L2 VIDEO INPUT
AUDIO(L) INPUT
AUDIO(R) INPUT
J1702
EDIT IN/OUT
To FIT PG773
FSW
VIDEO2
AUDIO(L)
AUDIO(R)
EDIT OUT/IN
C1703
J1701
J1702
R1701
D1701
D1702
K1701
K1702
PG1773

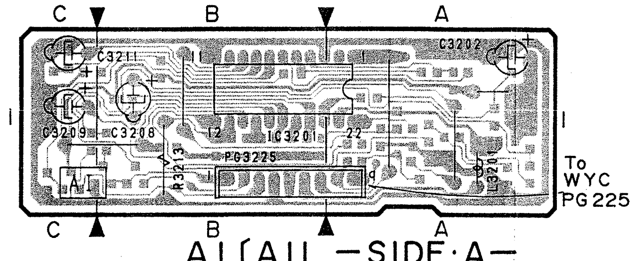
FSW 〔FRONT SW〕
〔PATTERN No.152107-4〕


To SSJ PG972
To SSJ PG971
E
D
C
B
A
F
2
1
To JOG PG1775
To FSW PG1773
IC701
DG701
D701
D706
D716
D717
D718
D709
D720
PG772
PG771
Q701
Q702
Q703
SW701
AI ↔ NORMAL
S720 ▼CH
S719 ▲CH
S724 H.CLN
S723 REC
S727 PAUSE
S729 RESET
R720
R722
R723
R724
R731
R732
R733
R734
R735
R702
R707
R708
R709
R715
R716
JP701
JP703
C703
FIT
F SW701 AI↔NORMAL
S720 CH▼
E S719 CH▲
S724 HEAD CLEANING
D S723 REC
S727 PAUSE
C S729 RESET
B
A

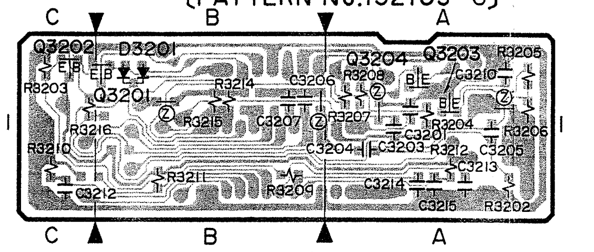
FIT 〔TIMER〕
〔PATTERN No.152107-4〕


S1773 STOP/EJECT
S1771 SHUTTLE PLAY/STILL SW
S1772 OPERATE
STOP/EJECT
S1773
JOG
PLAY/STILL S1771
OPERATE
S1772
PG1775
To FIT PG775
D1773
D1772
D1774
D1771

STL 〔SHUTTLE〕
〔PATTERN No. 152107-4〕

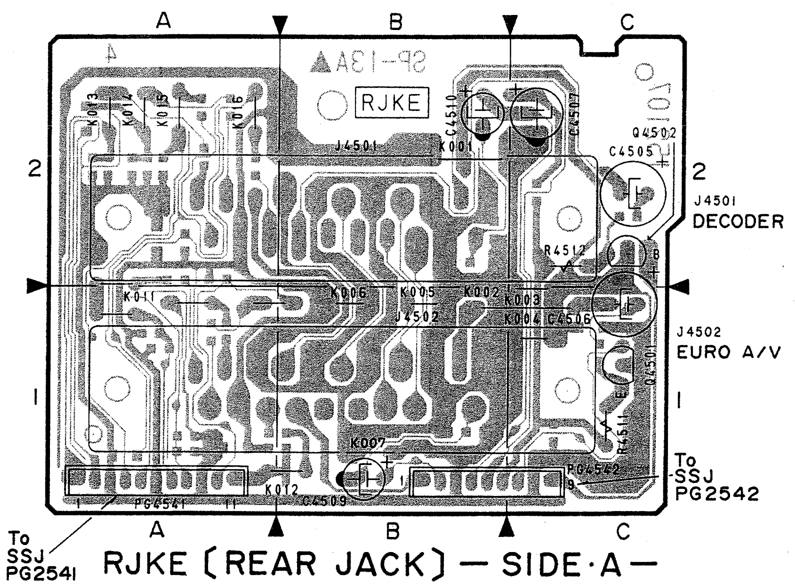

C
B
A
1
To WYC PG225
C3211
C3202
C3209
C3208
IC3201
PG3225
R3213
L3201
AI

AI 〔AI〕 -SIDE·A-
〔PATTERN No.152105-6〕

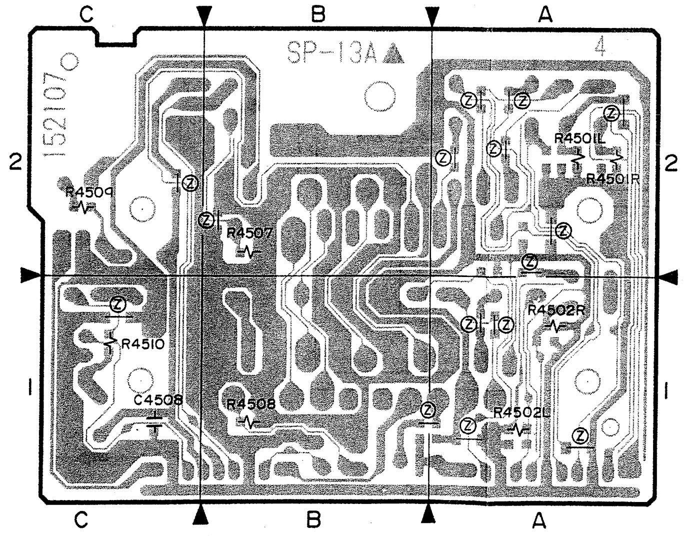

C
B
A
1
Q3202
D3201
Q3201
Q3204
Q3203
R3203
R3208
R3205
R3214
C3206
C3210
R3216
R3215
C3207
R3207
R3204
R3206
R3210
C3204
C3203
R3212
C3205
C3201
C3213
C3212
R3211
R3209
C3214
C3215
R3202

AI 〔AI〕 -SIDE·B-

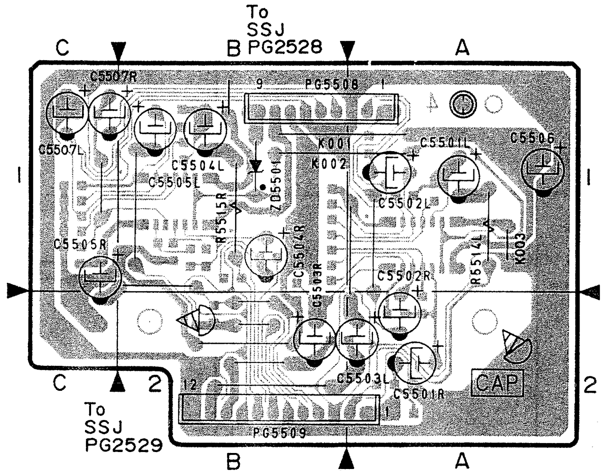
NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.


A
B
C
2
1
RJKE
J4501 DECODER
J4502 EURO A/V
To SSJ PG2542
To SSJ PG2541
J4501
J4502
C4510
C4507
C4505
C4506
C4509
Q4502
Q4501
R4512
R4511
K001
K002
K003
K004
K005
K006
K007
K011
K012
K013
K014
K015
K016
PG4541
PG4542

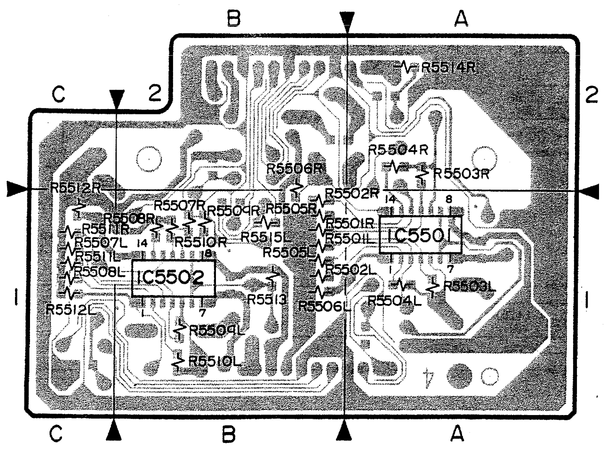
RJKE 〔REAR JACK〕 - SIDE·A -
〔PATTERN No.152107-4〕


C
B
A
2
1
SP-13A
152107
R4509
R4507
R4510
C4508
R4508
R4501L
R4501R
R4502R
R4502L

RJKE 〔REAR JACK〕 -SIDE·B-


To SSJ PG2528
C
B
A
1
2
To SSJ PG2529
C5507R
PG5508
C5507L
C5504L
C5505L
C5501L
C5506
K001
K002
K003
C5502L
C5505R
C5504R
C5502R
C5503R
C5503L
C5501R
R5515R
R5514L
D5501
PG5509
CAP

CAP 〔CANAL PLUS〕 -SIDE·A-
〔PATTERN No.152107-4〕


B
A
C
2
1
R5514R
R5504R
R5503R
R5506R
R5502R
R5512R
R5507R
R5504R
R5505R
R5508R
R5501R
R5511R
R5507L
R5510R
R5515L
R5501L
R5511L
R5505L
IC5501
IC5502
R5508L
R5502L
R5509L
R5513
R5512L
R5506L
R5504L
R5510L

CAP 〔CANAL PLUS〕 - SIDE·B -

IDENTIFICATION OF PARTS LOCATION

AI (AI)

Symbol No.	Parts Location
C	
C3201	B-1A
C3202	A-1A
C3203	B-1A
C3204	B-1A
C3205	B-1A
C3206	B-1B
C3207	B-1B
C3208	A-1B
C3209	A-1C
C3210	B-1A
C3211	A-1C
C3212	B-1C
C3213	B-1A
C3214	B-1A
C3215	B-1A
D	
D3201	B-1B
IC	
IC3201	A-1B
L	
L3201	A-1A
PG	
PG3225	A-1B
Q	
Q3201	B-1B
Q3202	B-1C
Q3203	B-1A
Q3204	B-1A
R	
R3202	B-1A
R3203	B-1C
R3204	B-1A
R3205	B-1A
R3206	B-1A
R3207	B-1A
R3208	B-1A
R3209	B-1B
R3210	B-1C
R3211	B-1B
R3212	B-1A
R3213	A-1B
R3214	B-1B
R3215	B-1B
R3216	B-1C

RJKE (REAR JACK)

Symbol No.	Parts Location
C	
C4505	A-2C
C4506	A-1C
C4507	A-2C
C4508	B-1C
C4509	A-1B
C4510	A-2B
J	
J4501	A-2B
J4502	A-1B
PG	
PG4541	A-1A
PG4542	A-1B
Q	
Q4501	A-1C
Q4502	A-2C
R	
R4501L	B-2A
R4501R	B-2A
R4502L	B-1A
R4502R	B-1A
R4507	B-2B
R4508	B-1B
R4509	B-2C
R4510	B-1C
R4511	A-1C
R4512	A-2C

FIT (TIMER)

Symbol No.	Parts Location
C	
C701	2C
C702	2B
C703	1B
D	
D701	2E
D706	2E
D709	2A
D716	1B
D717	2A
D718	2A
D720	2A
DG	
DG701	2D
IC	
IC701	2C
IR	
IR701	1B
PG	
PG771	2A
PG772	2B
PG773	1F
PG775	2A
Q	
Q701	1C
Q702	1D
Q703	1C
R	
R702	2C
R703	2C
R707	2C
R708	2C
R709	1C
R710	2B
R711	2B
R712	2B
R713	2B
R714	2C
R715	2C
R716	2C
R717	2C
R720	1E
R722	1D
R723	1D
R724	1D
R731	1C
R732	1A
R733	2A
R734	2A
R735	2A
S	
S719	1E
S720	1E
S723	1D
S724	1D
S727	1C
S729	1C
SW	
SW701	1F
ZD	
ZD701	2C

CAP (CANAL PLUS)

Symbol No.	Parts Location
C	
C5501L	A-1A
C5501R	A-2A
C5502L	A-1A
C5502R	A-2A
C5503L	A-2A
C5503R	A-2B
C5504L	A-1B
C5504R	A-1B
C5505L	A-1B
C5505R	A-1C
C5506	A-1A
C5507L	A-1C
C5507R	A-1C
IC	
IC5501	B-1A
IC5502	B-1B
PG	
PG5508	A-1B
PG5509	A-2B
R	
R5501L	B-1B
R5501R	B-1B
R5502L	B-1B
R5502R	B-1B
R5503L	B-1A
R5503R	B-2A
R5504L	B-1A
R5504R	B-2A
R5505L	B-1B
R5505R	B-1B
R5506L	B-1B
R5506R	B-2B
R5507L	B-1C
R5507R	B-1B
R5508L	B-1C
R5508R	B-1B
R5509L	B-1B
R5509R	B-1B
R5510L	B-1B
R5510R	B-1B
R5511L	B-1C
R5511R	B-1C
R5512L	B-1C
R5512R	B-1C
R5513	B-1B
R5514L	A-1A
R5514R	B-2A
R5515L	B-1B
R5515R	A-1B
ZD	
ZD5501	A-1B

IDENTIFICATION OF PARTS LOCATION

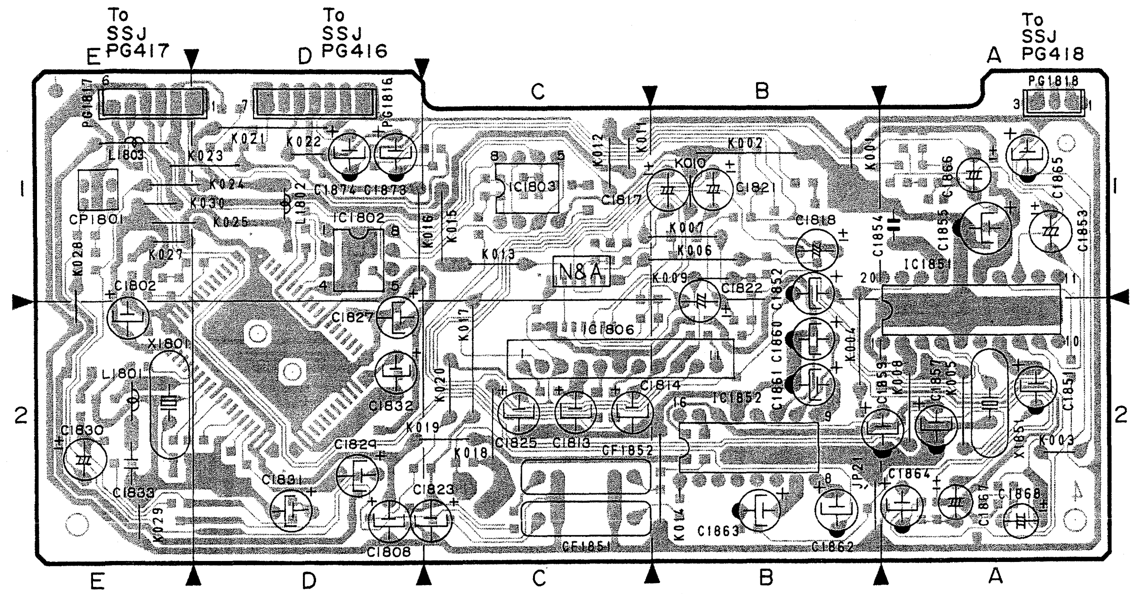
N & A 〔NICAM & A2〕

Symbol No.	Parts Location
C	
C1801	B-2E
C1802	A-2E
C1803	B-2E
C1804	B-2E
C1805	B-2E
C1806	B-2D
C1807	B-2D
C1808	A-2D
C1810	B-1C
C1812	B-1C
C1813	A-2C
C1814	A-2C
C1816	B-1D
C1817	A-1B
C1818	A-1B
C1821	A-1B
C1822	A-1B
C1823	A-2C
C1825	A-2C
C1826	B-2C
C1827	A-2D
C1828	B-2D
C1829	A-2D
C1830	A-2E
C1831	A-2D
C1832	A-2D
C1833	A-2E
C1834	B-1E
C1851	A-2A
C1852	A-1B
C1853	A-1A
C1854	A-1A
C1855	A-1A
C1856	B-1A
C1857	A-2A
C1858	B-2A
C1859	A-2A
C1860	A-2B
C1861	A-2B
C1862	A-2B
C1863	A-2B
C1864	A-2A
C1865	A-1A
C1866	A-1A
C1867	A-2A
C1868	A-2A
C1873	A-1D
C1874	A-1D
CF	
CF1851	A-2C
CF1852	A-2C
CP	
CP1801	A-1E
D	
D1801	B-1E
IC	
IC1801	B-2D
IC1802	A-1D
IC1803	A-1C
IC1804	B-2C
IC1806	A-2C
IC1851	A-2A
IC1852	A-2B
L	
L1801	A-2E
L1802	A-1D
L1803	A-1E
PG	
PG1816	A-1D
PG1817	A-1E
PG1818	A-1A
Q	
Q1804	B-2E
Q1805	B-1C
Q1806	B-1B
Q1807	B-1A
Q1808	B-1A
Q1871	B-1D
R	
R1802	B-2D
R1803	B-1E
R1804	B-1E
R1805	B-1C
R1806	B-1E
R1807	B-1C
R1811	B-1C
R1812	B-1C
R1814	B-1C
R1817	B-2C
R1818	B-2C
R1820	B-1B
R1822	B-2D
R1824	B-2E
R1825	B-2E
R1826	B-2E
R1827	B-2D
R1828	B-2D
R1829	B-2D
R1832	B-1D
R1833	B-1B
R1851	B-2C
R1852	B-2B
R1853	B-2B
R1854	B-2C
R1855	B-2B
R1856	B-2B
R1857	B-2B
R1858	B-2B
R1859	B-2B
R1860	B-2A
R1861	B-2A
R1862	B-2A
R1863	B-2A
R1864	B-1D
R1871	B-2A
R1872	B-1B
R1875	B-2B
R1876	B-1B
R1879	B-1D
R1880	B-1D
R1885	B-1A
R1886	B-1A
R1887	B-1A
R1888	B-1A
R1889	B-1B
R1890	B-1B
R1891	B-1B
R1892	B-1B
R1893	B-1A
R1894	B-1A
R1895	B-1B
R1899	B-2C
X	
X1801	A-2E
X1851	A-2A

PRE 〔PRE／REC AMP〕

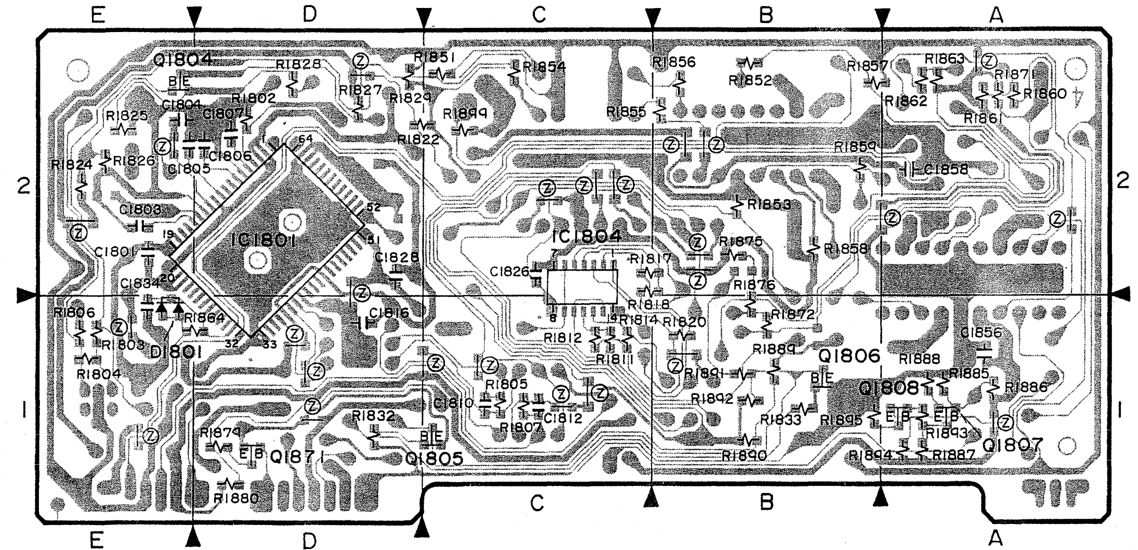
Symbol No.	Parts Location
C	
C1	1E
C2	1F
C4	1E
C5	1D
C6	1D
C7	1E
C8	1D
C9	1E
C10	1E
C11	1C
C12	1F
C13	1F
C14	1F
C15	1F
C16	1F
C17	2E
C18	2E
C19	2E
C20	2E
C21	2F
C22	2F
C23	2F
C24	2F
C25	2F
C26	2F
C27	2B
C28	1B
C29	1B
C30	2B
C31	2B
C32	1E
C33	2E
C34	2D
C35	2D
C36	2D
C37	2D
C38	2D
C39	2D
C40	1D
C41	1D
C42	2C
C43	2E
C44	1D
C45	1C
C46	1D
C47	2C
C48	2C
C49	2C
C50	2C
C51	2C
C52	2C
C53	2C
C59	1E
C60	2A
C61	2B
D	
D1	1F
D2	1E
IC	
IC1	1F
IC2	2D
IC3	2B
L	
L1	1F
L2	1D
L3	1E
L4	1C
L5	1F
L6	1F
L7	2E
L8	2F
L9	1B
L10	2B
L11	1B
L12	2C
L15	2B
L16	2B
PG	
PG1	2F
PG3	2A
PG4	1A
Q	
Q1	1C
Q3	1D
Q4	2G
Q5	1G
Q6	1E
Q7	2A
Q13	2D
R	
R1	1E
R2	1C
R3	1E
R4	1D
R5	1D
R6	1B
R7	1E
R9	1E
R10	2E
R11	2E
R12	1F
R13	1F
R14	2F
R15	2F
R16	2F
R17	2F
R18	2F
R19	2F
R20	2G
R21	1G
R22	1G
R23	1G
R24	2B
R25	2B
R26	2B
R27	1C
R28	2A
R29	1B
R31	1F
R32	2E
R33	2E
R34	2D
R35	2E
R36	2D
R37	2D
R38	2A
R39	1D
R40	1E
R41	1D
R42	1D
R43	1D
R44	1D
R45	2C
R46	2C
R47	2C
R48	2C
R49	2C
R50	2C
R51	2C
R52	2C
R53	2C
R62	2A
R63	2B
R64	2C

N & A. PRE CIRCUIT BOARDS


To SSJ PG417
To SSJ PG416
To SSJ PG418
E
D
C
B
A
1
2
PG1817
PG1816
PG1818
IC1801
IC1802
IC1803
IC1851
N&A
CP1801
X1801
L1801
L1803
CF1851
CF1852
C1802
C1830
C1833
C1808
C1823
C1831
C1829
C1832
C1827
C1825
C1813
C1814
C1806
C1817
C1821
C1822
C1852
C1854
C1855
C1853
C1865
C1866
C1851
C1859
C1857
C1864
C1867
C1868
C1863
C1862
C1873
C1874

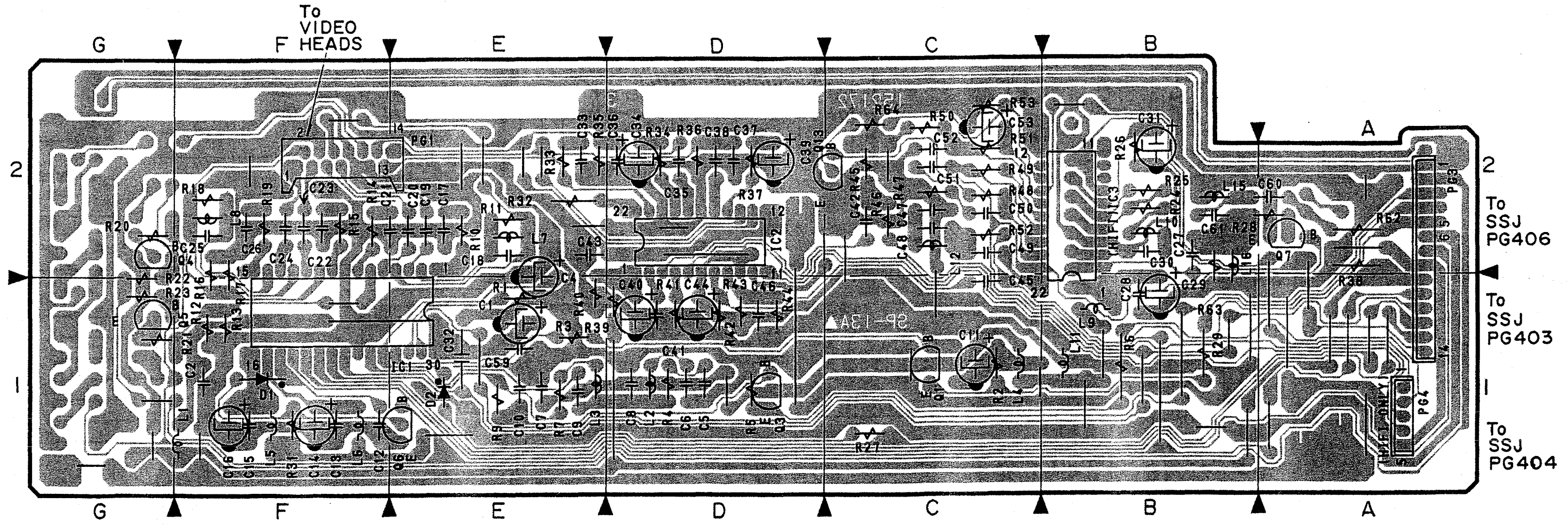
N & A [NICAM & A2] -SIDE·A-

[PATTERN No. 152107-4]


E
D
C
B
A
1
2
IC1801
IC1804
Q1804
Q1805
Q1806
Q1807
Q1808
Q1871
D1801
R1824
R1825
R1826
R1827
R1828
R1802
R1851
R1854
R1856
R1852
R1855
R1857
R1862
R1863
R1860
R1861
R1822
R1899
R1859
R1853
R1858
R1875
R1876
R1817
R1818
R1820
R1872
R1812
R1814
R1811
R1805
R1807
R1806
R1803
R1804
R1864
R1832
R1874
R1880
R1833
R1890
R1889
R1891
R1892
R1895
R1888
R1885
R1886
R1843
R1884
R1887
C1826
C1828
C1816
C1810
C1812
C1856
C1858

NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

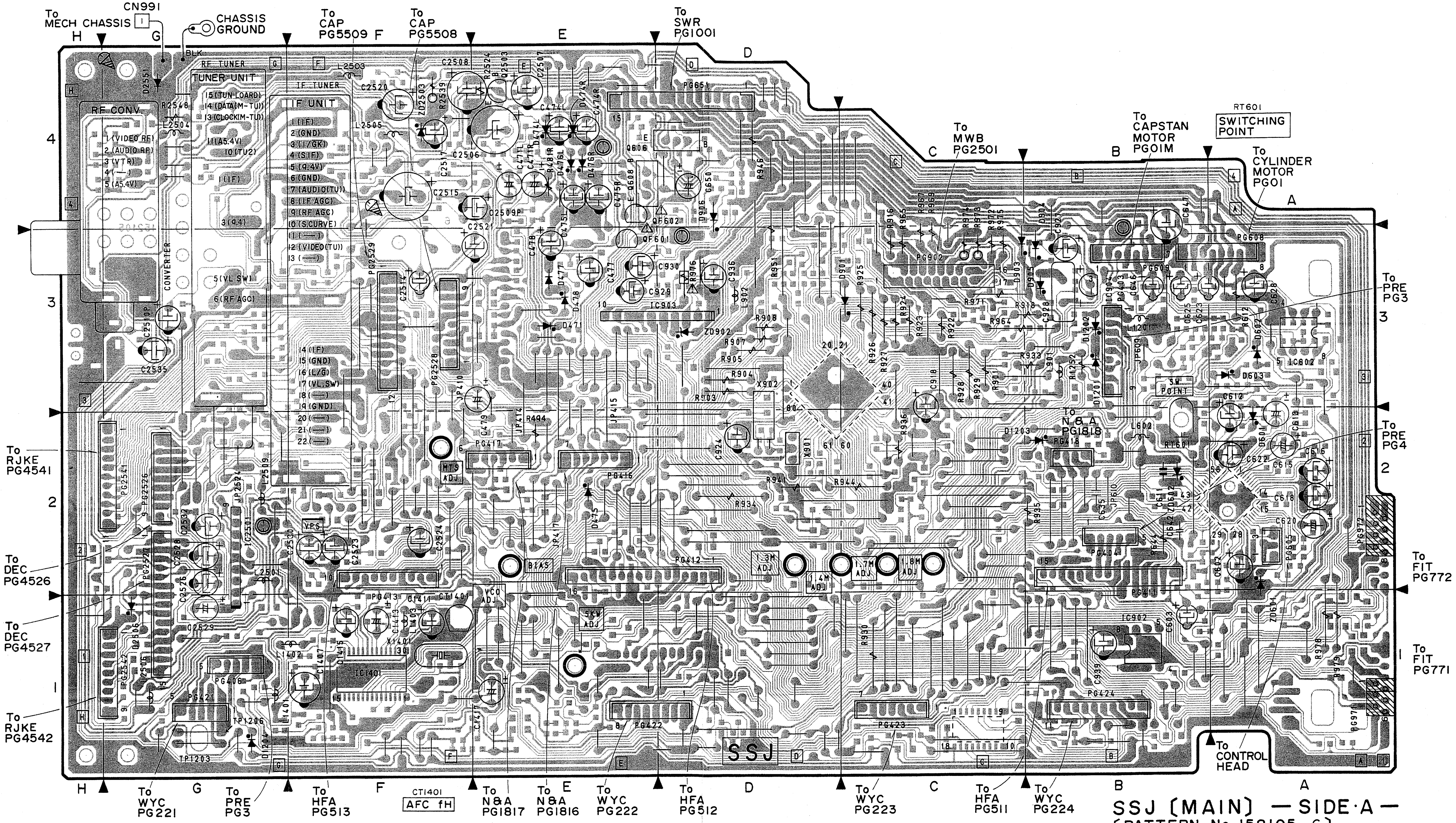
N & A [NICAM & A2] -SIDE·B-


To VIDEO HEADS
G
F
E
D
C
B
A
1
2
To SSJ PG406
To SSJ PG403
To SSJ PG404
IC1
IC2
IC3
PG1
PG3
PG4
SP-13A

PRE [PRE/REC AMP]

[PATTERN No. 152172 -3]

SSJ CIRCUIT BOARD -SIDE·A-


To MECH CHASSIS
CN991
CHASSIS GROUND
To CAP PG5509
To CAP PG5508
To SWR PG1001
To MWB PG2501
To CAPSTAN MOTOR PG01M
RT601
SWITCHING POINT
To CYLINDER MOTOR PG01
To PRE PG3
To PRE PG4
To FIT PG772
To FIT PG771
To CONTROL HEAD
To RJKE PG4541
To DEC PG4526
To DEC PG4527
To RJKE PG4542
To WYC PG221
To PRE PG3
To HFA PG513
CT1401
AFC fH
To N&A PG1817
To N&A PG1816
To WYC PG222
To HFA PG512
To WYC PG223
To HFA PG511
To WYC PG224
To N&A PG1818
RF CONV.
TUNER UNIT
IF UNIT
CONVERTER
MTS ADJ
BIAS
VCO ADJ
SKW ADJ
VPS
1.3M ADJ
1.4M ADJ
1.7M ADJ
1.8M ADJ
SW POINT
SSJ
A
B
C
D
E
F
G
H
1
2
3
4

SSJ (MAIN) —SIDE·A—
(PATTERN No.152105-6)

IDENTIFICATION OF PARTS LOCATION

SSJ (MAIN)

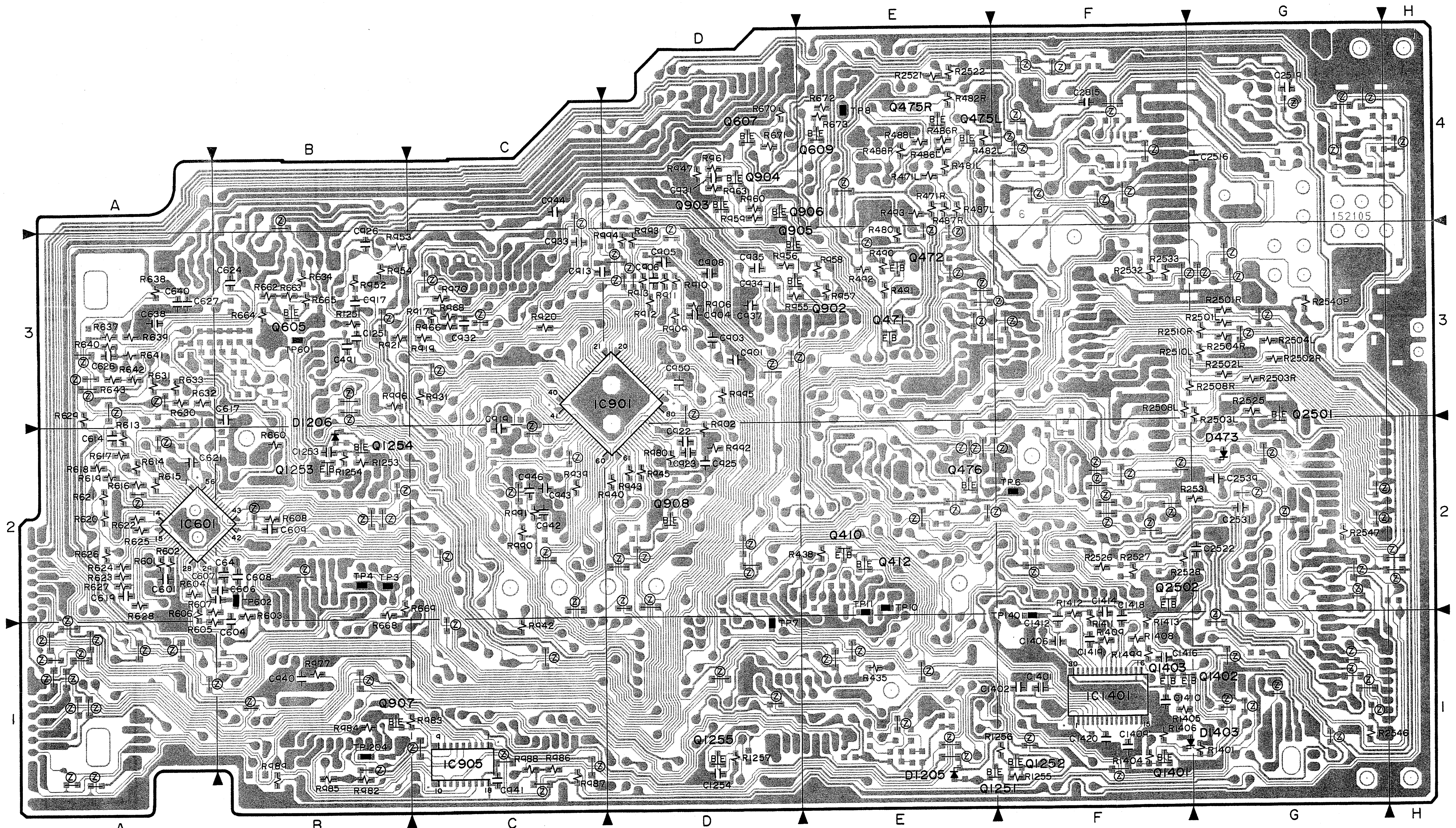
Symbol No.	Parts Location
C	
C471L	A-4E
C471R	A-4E
C474L	A-4E
C474R	A-4E
C475L	A-4E
C475R	A-4E
C477	A-3E
C478	A-3E
C479	A-3E
C491	B-3B
C601	B-2A
C602	A-2A
C603	A-1B
C604	B-2B
C606	B-2B
C607	B-2B
C608	B-2B
C609	B-2B
C611	A-2B
C612	A-2A
C613	A-2A
C614	B-2A
C615	A-2A
C616	A-2A
C617	B-3B
C618	A-2A
C619	B-2A
C620	A-2A
C621	B-2A
C622	A-2A
C623	A-3B
C624	B-3B
C625	A-3B
C626	B-3A
C627	B-3A
C628	A-3A
C635	A-2B
C638	B-3A
C640	B-3A
C641	B-2B
C642	A-2B
C646	A-3B
C647	A-4B
C650	A-4D
C901	B-3D
C903	B-3D
C904	B-3D
C905	B-3D
C906	B-3D
C908	B-3D
C913	B-3C
C917	B-3B
C918	A-3C
C919	B-2C
C922	B-2D
C923	B-2D
C924	A-2D
C925	B-2D
C926	B-3B
C927	A-3B
C928	A-3B
C929	A-3E
C930	A-3E
C931	B-4D
C932	B-3C
C933	B-3C
C934	B-3D
C935	B-3D
C936	A-3D
C937	B-3D
C939	A-1B
C940	B-1B
C941	B-1C
C942	B-2C
C943	B-2C
C944	B-4C
C946	B-2C
C950	B-3D
C1251	B-3B
C1253	B-2B
C1254	B-1D
C1401	B-1F
C1402	B-1F
C1406	B-1F
C1407	A-1F
C1409	B-1F
C1410	B-1F
C1411	A-1F
C1412	B-1F
C1413	A-1F
C1414	B-2F
C1415	A-1F
C1416	B-1F
C1417	A-1E
C1418	B-1F
C1419	B-1F
C1420	B-1F
C2506	A-4E
C2507	A-4E
C2508	A-4F
C2509P	A-4E
C2510P	A-3G
C2514	A-3F
C2515	A-4F
C2516	B-4G
C2517	A-4F
C2519	B-4G
C2520	A-4F
C2521	A-3E
C2522	B-2G
C2523	A-2F
C2524	A-2F
C2526	A-2G
C2528	A-2G
C2529	A-1G
C2530	A-2F
C2531	B-2G
C2532	A-2G
C2535	A-3G
C2539	B-2G
C2815	B-4F
CT	
CT1401	A-1F
D	
D471	A-3E
D473	B-2G
D474L	A-4E
D474R	A-4E
D475	A-2E
D476L	A-4E
D476R	A-4E
D477	A-3E
D478	A-3E
D601	A-2A
D602	A-3A
D603	A-3A
D901	A-3C
D903	A-3C
D904	A-3B
D905	A-3B
D906	A-4D
D1201	A-3B
D1202	A-3B
D1203	A-2B
D1204	A-1G
D1205	B-1E
D1206	B-2B
D1403	B-1F
D2506	A-1G
D2551	A-4G
IC	
IC601	B-2A
IC602	A-3A
IC901	B-3D
IC902	A-1B
IC903	A-3D
IC904	A-3B
IC905	B-1C
IC1401	B-1F
IC2501	A-2G
L	
L602	A-2B
L901	A-3B
L902	A-3D
L1201	A-3B
L1401	A-1G
L1402	A-1F
L1403	A-1F
L2501	A-2G
L2503	A-4F
L2504	A-4G
L2505	A-4F
L2506	A-1G
L2509	A-2G
PG	
PG403	A-3B
PG404	A-2B
PG406	A-1G
PG411	A-2B
PG412	A-2E
PG413	A-2F
PG416	A-2E
PG417	A-2E
PG418	A-2B
PG421	A-1G
PG422	A-1E
PG423	A-1C
PG424	A-1B
PG605	A-2A
PG608	A-3A
PG609	A-3B
PG651	A-4D
PG902	A-3C
PG971	A-1A
PG972	A-2A
PG2526	A-2G
PG2527	A-2G
PG2528	A-3F
PG2529	A-3F
PG2541	A-2G
PG2542	A-1G
Q	
Q410	B-2E
Q412	B-2E
Q471	B-3E
Q472	B-3E
Q475L	B-4E
Q475R	B-4E
Q476	B-2E
Q605	B-3B
Q606	A-4D
Q607	B-4D
Q608	A-4E
Q609	B-4E
Q902	B-3D
Q903	B-4D
Q904	B-4D
Q905	B-3D
Q906	B-4D
Q907	B-1B
Q908	B-2D
Q1251	B-1E
Q1252	B-1F
Q1253	B-2B
Q1254	B-2B
Q1255	B-1D
Q1401	B-1F
Q1402	B-1F
Q1403	B-1F
Q2501	B-3G
Q2502	B-2F
Q2503	A-4E
QF	
QF601	A-3E
QF602	A-4E
R	
R435	B-1E
R438	B-2E
R471L	B-4E
R471R	B-4E
R480	B-3E
R481L	B-4E
R481R	A-4E
R482L	B-4E
R482R	B-4E
R486L	B-4E
R486R	B-4E
R487L	B-4E
R487R	B-4E
R488L	B-4E
R488R	B-4E
R490	B-3E
R491	B-3E
R492	B-3E
R493	B-4E
R494	A-2E
R601	B-2A
R602	B-2A
R603	B-2B
R604	B-2A
R605	B-1A
R606	B-2A
R607	B-2A
R608	B-2B
R612	A-3A
R613	B-2A
R614	B-2A
R615	B-2A
R616	B-2A
R617	B-2A
R618	B-2A
R619	B-2A
R620	B-2A
R621	B-2A
R622	B-2A
R623	B-2A
R624	B-2A
R625	B-2A
R626	B-2A
R627	B-2A
R628	B-2A
R629	B-3A
R630	B-3A
R631	B-3A
R632	B-3A
R633	B-3A
R634	B-3B
R637	B-3A
R638	B-3A
R639	B-3A
R640	B-3A
R641	B-3A
R642	B-3A
R643	B-3A
R644	A-2B
R660	B-2B
R662	B-3B
R663	B-3B
R664	B-3B
R665	B-3B
R668	B-2B
R669	B-2B
R670	B-4D
R671	B-4D
R672	B-4E
R673	B-4E
R901	A-3C
R902	B-2D
R903	A-3D
R904	A-3D
R905	A-3D
R906	B-3D
R907	A-3D
R908	A-3D
R909	B-3D
R910	B-3D
R911	B-3D
R912	B-3D
R913	B-3D
R916	A-3C
R917	B-3C
R918	A-3B
R919	B-3C
R920	B-3C
R921	B-3B
R922	A-3C
R923	A-3C
R924	A-3C
R925	A-3C
R926	A-3C
R927	A-3C
R928	A-3C
R929	A-3C
R930	A-1C
R931	B-3C
R933	A-3B
R934	A-2D
R935	A-2B
R936	A-2C
R939	B-2C
R940	B-2D
R941	A-2D
R942	B-1C
R943	B-2D
R944	A-2C
R945	B-2D
R946	A-4D
R947	B-4D
R951	A-3D
R952	B-3B
R953	B-3B
R954	B-3B
R955	B-3D
R956	B-3D
R957	B-3E
R958	B-3E
R959	B-4D
R960	B-4D
R961	B-4D
R963	B-4D
R964	A-3C
R965	A-3C
R966	B-3C
R967	A-3C
R968	B-3C
R969	A-3C
R970	B-3C
R971	A-3C
R972	A-3C
R973	A-3C
R974	A-3C
R975	A-3C
R976	A-3D
R977	B-1B
R978	A-1A
R979	A-1A
R980	B-2D
R982	B-1B
R983	B-1B
R984	B-1B
R985	B-1B
R986	B-1C
R987	B-1C
R988	B-1C
R989	B-1B
R990	B-2C
R991	B-2C
R992	B-2D
R993	B-3D
R994	B-3D
R995	B-3D
R996	B-3B
R1251	B-3B
R1252	A-3B
R1253	B-2B
R1254	B-2B
R1255	B-1F
R1256	B-1F
R1257	B-1D
R1401	B-1G
R1404	B-1F
R1405	B-1F
R1406	B-1F
R1408	B-1F
R1409	B-1F
R1411	B-1F
R1412	B-1F
R1413	B-1F
R1499	B-1F
R2501L	B-3G
R2501R	B-3G
R2502L	B-3G
R2502R	B-3G
R2503L	B-3G
R2503R	B-3G
R2504L	B-3G
R2504R	B-3G
R2508L	B-3F
R2508R	B-3F
R2510L	B-3G
R2510R	B-3G
R2521	B-4E
R2522	B-4E
R2524	A-4E
R2525	B-3G
R2526	B-2F
R2527	B-2F
R2528	B-2F
R2531	B-2G
R2532	B-3F
R2533	B-3F
R2539	A-4F
R2540P	B-3G
R2546	B-1G
R2547	B-2G
R2548	A-4G
RT	
RT601	A-2B
TP	
TP3	B-2B
TP4	B-2B
TP6	B-2F
TP7	B-1D
TP8	B-4E
TP10	B-2E
TP11	B-2E
TP601	B-3B
TP602	B-2B
TP1203	A-1G
TP1204	B-1B
TP1206	A-1G
TP1401	B-1F
X	
X901	A-2D
X902	A-2D
X1401	A-1F
ZD	
ZD601	A-2A
ZD602	A-2B
ZD902	A-3D
ZD2503	A-4F

IDENTIFICATION OF PARTS LOCATION

SSJ 〔MAIN〕

Symbol No.	Parts Location
C	
C471L	A-4E
C471R	A-4E
C474L	A-4E
C474R	A-4E
C475L	A-4E
C475R	A-4E
C477	A-3E
C478	A-3E
C479	A-3E
C491	B-3B
C601	B-2A
C602	A-2A
C603	A-1B
C604	B-2B
C606	B-2B
C607	B-2B
C608	B-2B
C609	B-2B
C611	A-2B
C612	A-2A
C613	A-2A
C614	B-2A
C615	A-2A
C616	A-2A
C617	B-3B
C618	A-2A
C619	B-2A
C620	A-2A
C621	B-2A
C622	A-2A
C623	A-3B
C624	B-3B
C625	A-3B
C626	B-3A
C627	B-3A
C628	A-3A
C635	A-2B
C638	B-3A
C640	B-3A
C641	B-2B
C642	A-2B
C646	A-3B
C647	A-4B
C650	A-4D
C901	B-3D
C903	B-3D
C904	B-3D
C905	B-3D
C906	B-3D
C908	B-3D
C913	B-3C
C917	B-3B
C918	A-3C
C919	B-2C
C922	B-2D
C923	B-2D
C924	A-2D
C925	B-2D
C926	B-3B
C927	A-3B
C928	A-3B
C929	A-3E
C930	A-3E
C931	B-4D
C932	B-3C
C933	B-3C
C934	B-3D
C935	B-3D
C936	A-3D
C937	B-3D
C939	A-1B
C940	B-1B
C941	B-1C
C942	B-2C
C943	B-2C
C944	B-4C
C946	B-2C
C950	B-3D
C1251	B-3B
C1253	B-2B
C1254	B-1D
C1401	B-1F
C1402	B-1F
C1406	B-1F
C1407	A-1F
C1409	B-1F
C1410	B-1F
C1411	A-1F
C1412	B-1F
C1413	A-1F
C1414	B-2F
C1415	A-1F
C1416	B-1F
C1417	A-1E
C1418	B-1F
C1419	B-1F
C1420	B-1F
C2506	A-4E
C2507	A-4E
C2508	A-4F
C2509P	A-4E
C2510P	A-3G
C2514	A-3F
C2515	A-4F
C2516	B-4G
C2517	A-4F
C2519	B-4G
C2520	A-4F
C2521	A-3E
C2522	B-2G
C2523	A-2F
C2524	A-2F
C2526	A-2G
C2528	A-2G
C2529	A-1G
C2530	A-2F
C2531	B-2G
C2532	A-2G
C2535	A-3G
C2539	B-2G
C2815	B-4F
CT	
CT1401	A-1F
D	
D471	A-3E
D473	B-2G
D474L	A-4E
D474R	A-4E
D475	A-2E
D476L	A-4E
D476R	A-4E
D477	A-3E
D478	A-3E
D601	A-2A
D602	A-3A
D603	A-3A
D901	A-3C
D903	A-3C
D904	A-3B
D905	A-3B
D906	A-4D
D1201	A-3B
D1202	A-3B
D1203	A-2B
D1204	A-1G
D1205	B-1E
D1206	B-2B
D1403	B-1F
D2506	A-1G
D2551	A-4G
IC	
IC601	B-2A
IC602	A-3A
IC901	B-3D
IC902	A-1B
IC903	A-3D
IC904	A-3B
IC905	B-1C
IC1401	B-1F
IC2501	A-2G
L	
L602	A-2B
L901	A-3B
L902	A-3D
L1201	A-3B
L1401	A-1G
L1402	A-1F
L1403	A-1F
L2501	A-2G
L2503	A-4F
L2504	A-4G
L2505	A-4F
L2506	A-1G
L2509	A-2G
PG	
PG403	A-3B
PG404	A-2B
PG406	A-1G
PG411	A-2B
PG412	A-2E
PG413	A-2F
PG416	A-2E
PG417	A-2E
PG418	A-2B
PG421	A-1G
PG422	A-1E
PG423	A-1C
PG424	A-1B
PG605	A-2A
PG608	A-3A
PG609	A-3B
PG651	A-4D
PG902	A-3C
PG971	A-1A
PG972	A-2A
PG2526	A-2G
PG2527	A-2G
PG2528	A-3F
PG2529	A-3F
PG2541	A-2G
PG2542	A-1G
Q	
Q410	B-2E
Q412	B-2E
Q471	B-3E
Q472	B-3E
Q475L	B-4E
Q475R	B-4E
Q476	B-2E
Q605	B-3B
Q606	A-4D
Q607	B-4D
Q608	A-4E
Q609	B-4E
Q902	B-3D
Q903	B-4D
Q904	B-4D
Q905	B-3D
Q906	B-4D
Q907	B-1B
Q908	B-2D
Q1251	B-1E
Q1252	B-1F
Q1253	B-2B
Q1254	B-2B
Q1255	B-1D
Q1401	B-1F
Q1402	B-1F
Q1403	B-1F
Q2501	B-3G
Q2502	B-2F
Q2503	A-4E
QF	
QF601	A-3E
QF602	A-4E
R	
R435	B-1E
R438	B-2E
R471L	B-4E
R471R	B-4E
R480	B-3E
R481L	B-4E
R481R	A-4E
R482L	B-4E
R482R	B-4E
R486L	B-4E
R486R	B-4E
R487L	B-4E
R487R	B-4E
R488L	B-4E
R488R	B-4E
R490	B-3E
R491	B-3E
R492	B-3E
R493	B-4E
R494	A-2E
R601	B-2A
R602	B-2A
R603	B-2B
R604	B-2A
R605	B-1A
R606	B-2A
R607	B-2A
R608	B-2B
R612	A-3A
R613	B-2A
R614	B-2A
R615	B-2A
R616	B-2A
R617	B-2A
R618	B-2A
R619	B-2A
R620	B-2A
R621	B-2A
R622	B-2A
R623	B-2A
R624	B-2A
R625	B-2A
R626	B-2A
R627	B-2A
R628	B-2A
R629	B-3A
R630	B-3A
R631	B-3A
R632	B-3A
R633	B-3A
R634	B-3B
R637	B-3A
R638	B-3A
R639	B-3A
R640	B-3A
R641	B-3A
R642	B-3A
R643	B-3A
R644	A-2B
R660	B-2B
R662	B-3B
R663	B-3B
R664	B-3B
R665	B-3B
R668	B-2B
R669	B-2B
R670	B-4D
R671	B-4D
R672	B-4E
R673	B-4E
R901	A-3C
R902	B-2D
R903	A-3D
R904	A-3D
R905	A-3D
R906	B-3D
R907	A-3D
R908	A-3D
R909	B-3D
R910	B-3D
R911	B-3D
R912	B-3D
R913	B-3D
R916	A-3C
R917	B-3C
R918	A-3B
R919	B-3C
R920	B-3C
R921	B-3B
R922	A-3C
R923	A-3C
R924	A-3C
R925	A-3C
R926	A-3C
R927	A-3C
R928	A-3C
R929	A-3C
R930	A-1C
R931	B-3C
R933	A-3B
R934	A-2D
R935	A-2B
R936	A-2C
R939	B-2C
R940	B-2D
R941	A-2D
R942	B-1C
R943	B-2D
R944	A-2C
R945	B-2D
R946	A-4D
R947	B-4D
R951	A-3D
R952	B-3B
R953	B-3B
R954	B-3B
R955	B-3D
R956	B-3D
R957	B-3E
R958	B-3E
R959	B-4D
R960	B-4D
R961	B-4D
R963	B-4D
R964	A-3C
R965	A-3C
R966	B-3C
R967	A-3C
R968	B-3C
R969	A-3C
R970	B-3C
R971	A-3C
R972	A-3C
R973	A-3C
R974	A-3C
R975	A-3C
R976	A-3D
R977	B-1B
R978	A-1A
R979	A-1A
R980	B-2D
R982	B-1B
R983	B-1B
R984	B-1B
R985	B-1B
R986	B-1C
R987	B-1C
R988	B-1C
R989	B-1B
R990	B-2C
R991	B-2C
R992	B-2D
R993	B-3D
R994	B-3D
R995	B-3D
R996	B-3B
R1251	B-3B
R1252	A-3B
R1253	B-2B
R1254	B-2B
R1255	B-1F
R1256	B-1F
R1257	B-1D
R1401	B-1G
R1404	B-1F
R1405	B-1F
R1406	B-1F
R1408	B-1F
R1409	B-1F
R1411	B-1F
R1412	B-1F
R1413	B-1F
R1499	B-1F
R2501L	B-3G
R2501R	B-3G
R2502L	B-3G
R2502R	B-3G
R2503L	B-3G
R2503R	B-3G
R2504L	B-3G
R2504R	B-3G
R2508L	B-3F
R2508R	B-3F
R2510L	B-3G
R2510R	B-3G
R2521	B-4E
R2522	B-4E
R2524	A-4E
R2525	B-3G
R2526	B-2F
R2527	B-2F
R2528	B-2F
R2531	B-2G
R2532	B-3F
R2533	B-3F
R2539	A-4F
R2540P	B-3G
R2546	B-1G
R2547	B-2G
R2548	A-4G
RT	
RT601	A-2B
TP	
TP3	B-2B
TP4	B-2B
TP6	B-2F
TP7	B-1D
TP8	B-4E
TP10	B-2E
TP11	B-2E
TP601	B-3B
TP602	B-2B
TP1203	A-1G
TP1204	B-1B
TP1206	A-1G
TP1401	B-1F
X	
X901	A-2D
X902	A-2D
X1401	A-1F
ZD	
ZD601	A-2A
ZD602	A-2B
ZD902	A-3D
ZD2503	A-4F

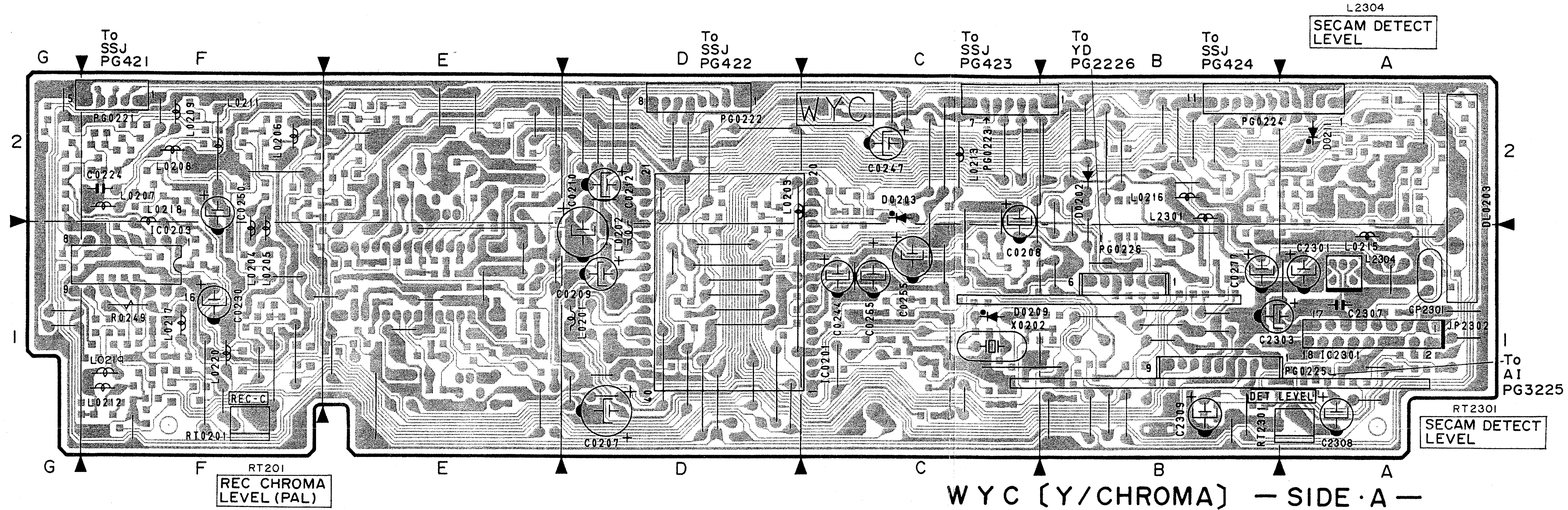
SSJ CIRCUIT BOARD -SIDE·B-



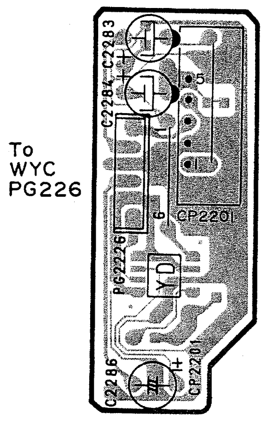
NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

SSJ (MAIN) —SIDE·B—

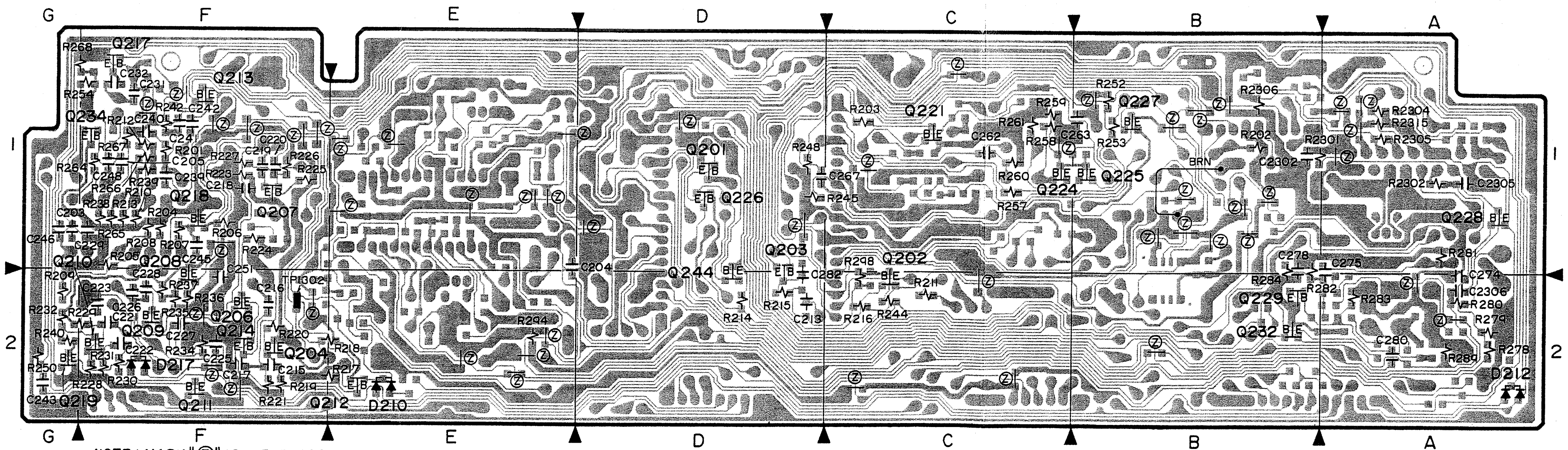
WYC. YD CIRCUIT BOARDS


To SSJ PG421
To SSJ PG422
To SSJ PG423
To YD PG2226
To SSJ PG424
L2304
SECAM DETECT LEVEL
G
F
E
D
C
B
A
1
2
WYC
PG0221
PG0222
PG0224
PG0226
PG0225
IC0203
IC2301
C0247
C0208
C0207
C0209
X0202
D0209
D0243
D0211
DL0203
DET LEVEL
REC-C
RT201
REC CHROMA LEVEL (PAL)
RT2301
SECAM DETECT LEVEL
To AI PG3225

WYC (Y/CHROMA) — SIDE·A —
(PATTERN NO.152105-6)

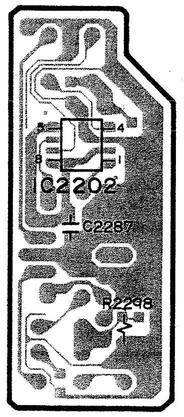

To WYC PG226
C2284
C2283
PG2226
CP2201
YD
C2286
CP2201

YD (Y-DELAY)
— SIDE·A —
(PATTERN No.152105-6)


G
F
E
D
C
B
A
1
2
Q217
Q213
Q234
Q218
Q207
Q210
Q208
Q206
Q209
Q214
Q217
Q219
Q211
Q204
Q212
D210
D217
Q201
Q226
Q244
Q203
Q202
Q221
Q224
Q225
Q227
Q228
Q229
Q232
D212
BRN

NOTE: MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

WYC (Y/CHROMA) — SIDE·B —


C2202
C2287
R2298

YD (Y-DELAY)
— SIDE·B —

IDENTIFICATION OF PARTS LOCATION

WYC (Y/CHROMA)

Symbol No.	Parts Location
C	
C203	B-1G
C204	B-1E
C205	B-1F
C207	A-1D
C208	A-1C
C209	A-1D
C210	A-1D
C212	A-2D
C213	B-2D
C215	B-2F
C216	B-2F
C217	B-2F
C218	B-1F
C219	B-1F
C220	B-1F
C221	B-2F
C222	B-2F
C223	B-2F
C224	A-2F
C225	B-2F
C226	B-2F
C227	B-2F
C228	B-2F
C229	B-1F
C230	A-1F
C231	B-1F
C232	B-1F
C239	B-1F
C240	B-1F
C241	B-1F
C242	B-1F
C243	B-2G
C244	A-1C
C245	B-1F
C246	B-1G
C247	A-2C
C248	B-1F
C250	A-2F
C251	B-2F
C255	A-1C
C262	B-1C
C263	B-1B
C265	A-1C
C267	B-1D
C274	B-2A
C275	B-1A
C277	A-1B
C278	B-1B
C280	B-2A
C282	B-2D
C2301	A-1A
C2302	B-1B
C2303	A-1B
C2305	B-1A
C2306	B-2A
C2307	A-1A
C2308	A-1A
C2309	A-1B
CP	
CP2301	A-1A
D	
D202	A-2B
D203	A-2C
D209	A-1C
D210	B-2E
D211	A-2A
D212	B-2A
D217	B-2F
DL	
DL203	A-2A
IC	
IC201	A-1D
IC203	A-1F
IC2301	A-1A
L	
L201	A-1D
L202	A-1D
L203	A-2D
L204	A-1F
L205	A-1F
L206	A-2F
L207	A-2F
L208	A-2F
L209	A-2F
L211	A-2F
L212	A-1F
L213	A-2C
L215	A-1A
L216	A-2B
L217	A-1F
L218	A-2F
L219	A-1F
L220	A-1F
L2301	A-2B
L2304	A-1A
PG	
PG221	A-2F
PG222	A-2D
PG223	A-2C
PG224	A-2B
PG225	A-1B
PG226	A-1B
Q	
Q201	B-1D
Q202	B-2C
Q203	B-1D
Q204	B-2F
Q206	B-2F
Q207	B-1F
Q208	B-2F
Q209	B-2F
Q210	B-2F
Q211	B-2F
Q212	B-2E
Q213	B-1F
Q214	B-2F
Q217	B-1F
Q218	B-1F
Q219	B-2G
Q221	B-1C
Q224	B-1C
Q225	B-1B
Q226	B-1D
Q227	B-1B
Q228	B-1A
Q229	B-2B
Q232	B-2B
Q234	B-1F
Q244	B-1D
R	
R201	B-1F
R202	B-1B
R203	B-1C
R204	B-1F
R205	B-1F
R206	B-1F
R207	B-1F
R208	B-1F
R209	B-2G
R210	B-1F
R211	B-2C
R212	B-1F
R213	B-1F
R214	B-2D
R215	B-2D
R216	B-2C
R217	B-2E
R218	B-2E
R219	B-2F
R220	B-2F
R221	B-2F
R223	B-1F
R224	B-1F
R225	B-1F
R226	B-1F
R227	B-1F
R228	B-2F
R229	B-2F
R230	B-2F
R231	B-2F
R232	B-2G
R234	B-2F
R235	B-2F
R236	B-2F
R237	B-2F
R238	B-1F
R239	B-1F
R240	B-2G
R242	B-1F
R244	B-2C
R245	B-1D
R248	B-1D
R249	A-1F
R250	B-2G
R252	B-1B
R253	B-1B
R254	B-1F
R257	B-1C
R258	B-1C
R259	B-1C
R260	B-1C
R261	B-1C
R264	B-1F
R265	B-1F
R266	B-1F
R267	B-1F
R268	B-1G
R278	B-2A
R279	B-2A
R280	B-2A
R281	B-1A
R282	B-1B
R283	B-2A
R284	B-1B
R289	B-2A
R294	B-2E
R298	B-2C
R2301	B-1B
R2302	B-1A
R2304	B-1A
R2305	B-1A
R2306	B-1B
R2315	B-1A
RT	
RT201	A-1F
RT2301	A-1A
TP	
TP1302	B-2F
X	
X202	A-1C

IDENTIFICATION OF PARTS LOCATION

HFA (Hi – Fi AUDIO)

Symbol No.	Parts Location
C	
C401	A-2E
C402	B-2F
C403	B-2F
C404	A-1E
C405	B-1F
C406	B-1F
C407	A-2F
C409	B-2E
C410	B-2E
C412	B-1E
C413	B-1E
C414	A-2D
C415	A-2E
C416	A-2E
C417	A-1D
C418	A-1E
C420	A-2E
C421	A-1F
C422	B-2D
C424	B-1D
C501	A-1C
C502	B-1C
C503L	A-1B
C503R	A-2F
C504L	A-1B
C504R	A-2F
C505L	A-1B
C505R	A-2E
C506L	A-1C
C506R	A-2D
C508L	A-1A
C508R	A-2D
C509L	B-1A
C509R	B-2D
C510L	A-1B
C510R	A-2D
C511L	A-2B
C511R	A-2D
C512L	A-1B
C512R	A-2E
C513	A-2C
C514L	B-2B
C514R	B-2D
C515L	B-2B
C515R	B-2D
C516L	A-2C
C516R	A-2D
C517L	B-2B
C517R	B-2C
C518	B-1A
C519	B-2C
C520	B-2C
C521	A-2C
C522	B-2A

Symbol No.	Parts Location
C523	B-2C
C524	B-2C
C530	A-1D
C531	A-1D
C532	B-1D
C534	A-1B
C536	A-2D
C539	A-2F
C548L	B-2A
C550L	A-1C
C550R	A-1D
C552	A-1D
D	
D501	B-1B
IC	
IC401	A-2E
IC501	B-2D
L	
L401	A-1F
L402	A-2E
L501	A-1C
L502L	A-2B
L503	A-2A
PG	
PG505	A-1E
PG511	A-1A
PG512	A-1E
PG513	A-1F
Q	
Q401	A-1F
Q402	A-2F
Q403	B-1F
Q406	B-2E
Q408	B-1E
Q409	B-1E
Q410	B-1F
Q411	B-1F
Q501L	B-1D
Q501R	B-1D
Q502	B-1D
Q505	B-1A
R	
R401	B-1E
R402	B-2F
R404	B-2E
R405	B-2E
R406	B-2F
R407	B-1F
R408	B-1E
R409	B-1E
R410	B-1E
R412	B-2D
R414	B-2E
R415	B-2E
R416	B-2E

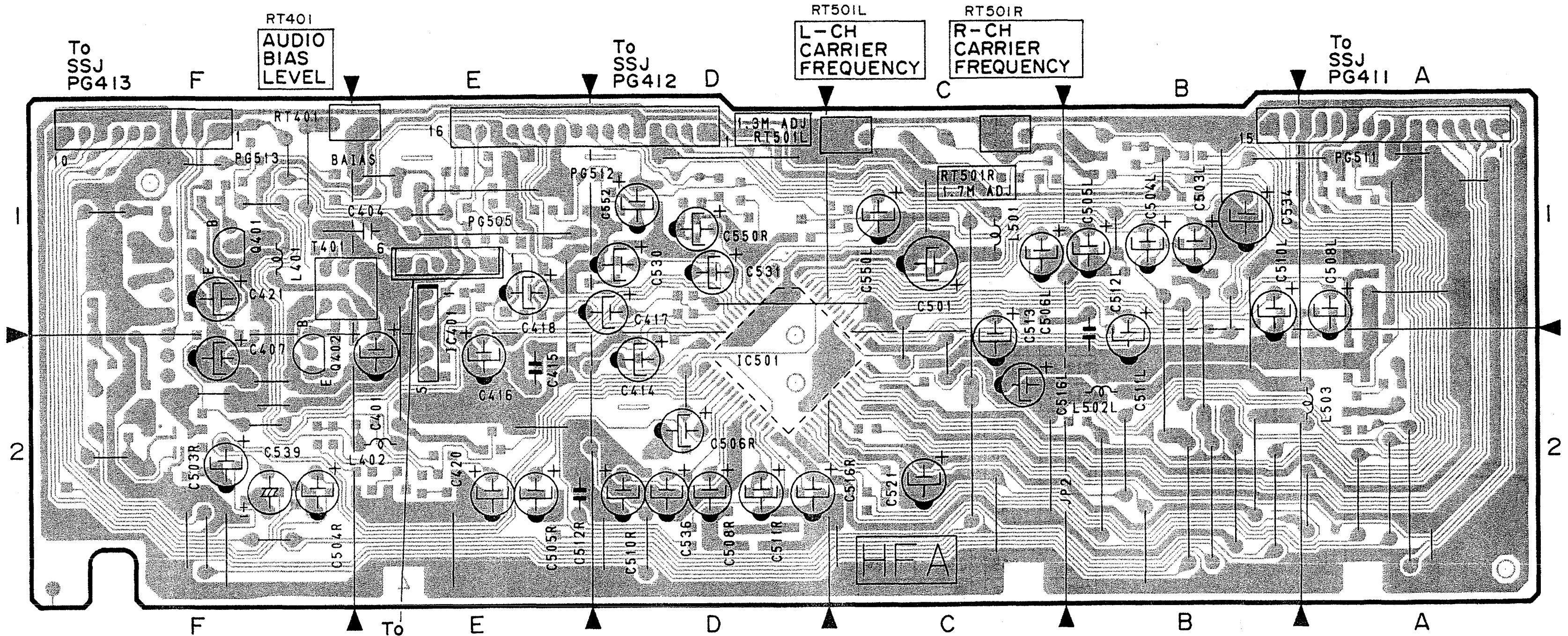
Symbol No.	Parts Location
R417	B-1E
R419	B-1F
R420	B-1F
R422	B-2E
R424	B-1F
R425	B-1F
R438	B-1D
R439	B-2F
R440	B-1F
R441	B-1E
R501L	B-1C
R501R	B-1D
R502L	B-1C
R502R	B-1D
R503L	B-1C
R503R	B-1D
R504	B-1D
R505L	B-2B
R505R	B-2D
R506L	B-1B
R506R	B-2D
R507L	B-2A
R507R	B-2D
R508L	B-1B
R508R	B-2D
R509L	B-1C
R509R	B-2D
R511	B-1A
R512	B-1D
R513	B-1A
R514L	B-1C
R514R	B-1B
R515L	B-2B
R515R	B-2C
R516	B-2C
R518	B-2D
R523	B-1D
R524	B-1E
R525	B-1D
R530L	B-1B
R530R	B-2F
R531L	B-1B
R531R	B-2F
R532L	B-1B
R532R	B-2F
R533L	B-1B
R533R	B-2F
R534L	B-1B
R534R	B-2E
R535L	B-1B
R535R	B-2E
R537	B-1A
R538	B-1A
R539	B-2F
R540	B-2F

Symbol No.	Parts Location
R543L	B-1C
R543R	B-2D
R544L	B-1C
R544R	B-2D
R547	B-2C
R551	B-1A
R558	B-2A
RT	
RT401	A-1F
RT501L	A-1C
RT501R	A-1C
T	
T401	A-1F

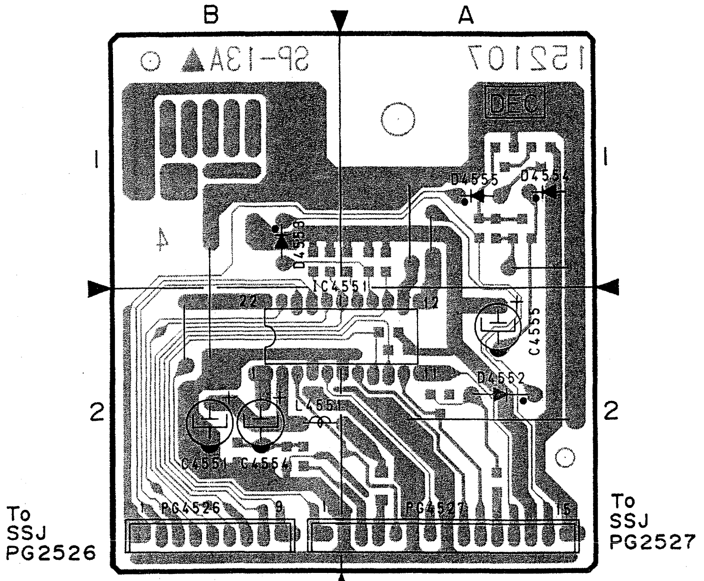
DEC (DECODER)

Symbol No.	Parts Location
C	
C4551	A-2B
C4552	B-2B
C4554	A-2B
C4555	A-2A
D	
D4551	B-2A
D4552	A-2A
D4553	A-1B
D4554	A-1A
D4555	A-1A
IC	
IC4551	A-2B
L	
L4551	A-2B
PG	
PG4526	A-2B
PG4527	A-2A
Q	
Q4551	B-1A
Q4552	B-1A
Q4553	B-1A
R	
R4551	B-2B
R4552	B-2B
R4553	B-2A
R4554	B-2A
R4555	B-2A
R4556	B-1A
R4557	B-1A
R4558	B-1A
R4559	B-1B
R4560	B-1B
R4561	B-1A
R4562	B-1A
R4563	B-2B

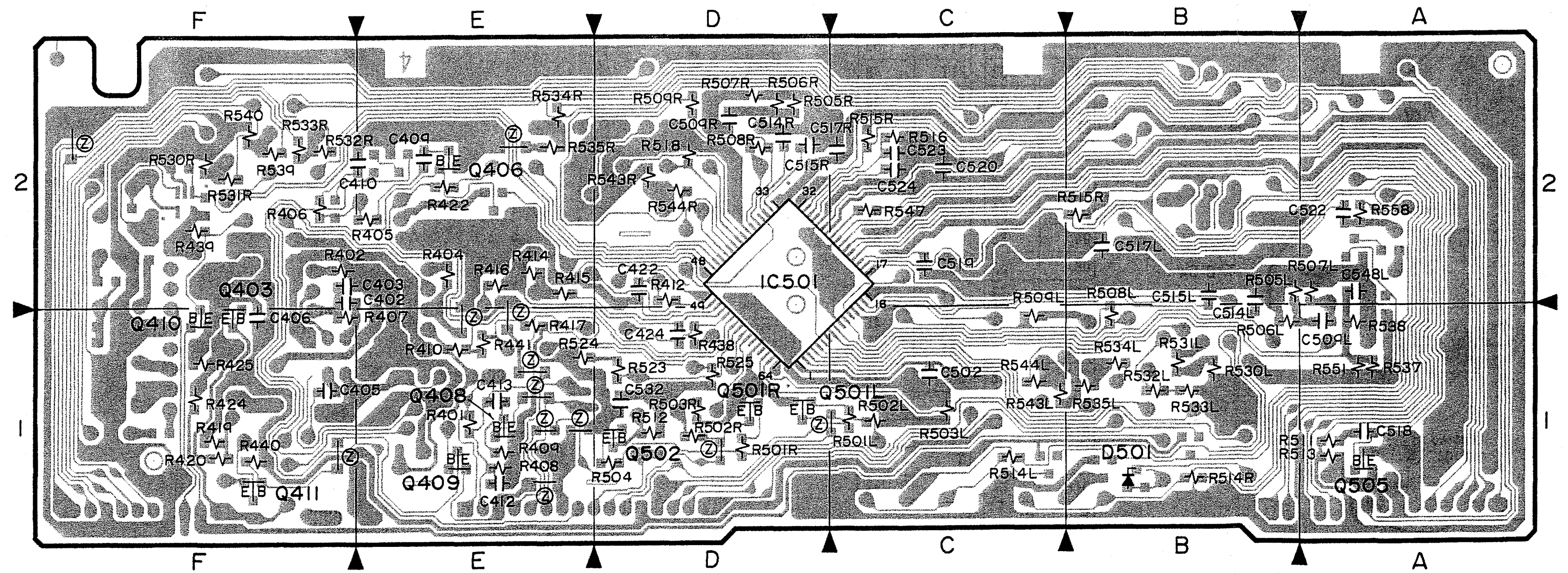
HFA, DEC CIRCUIT BOARDS


To SSJ PG413
RT401
AUDIO BIAS LEVEL
To SSJ PG412
RT501L
L-CH CARRIER FREQUENCY
RT501R
R-CH CARRIER FREQUENCY
To SSJ PG411
F
E
D
C
B
A
1
2
IC501
HFA
To AUDIO/ FULL ERASE HEAD

HFA (Hi-Fi AUDIO) — SIDE·A —
(PATTERN No.152107-4)

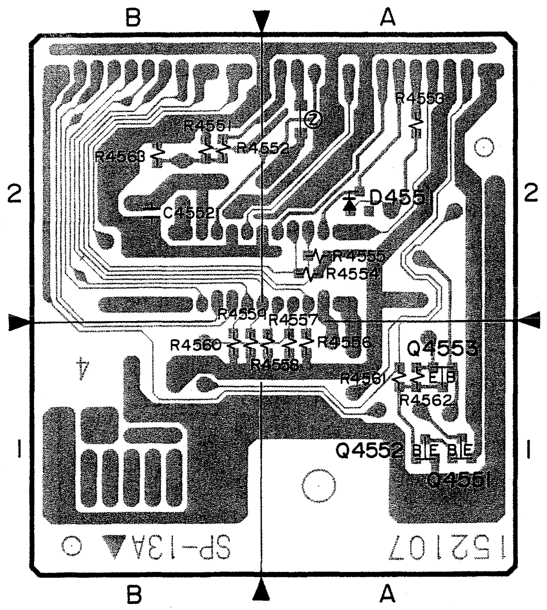

B
A
1
2
IC4551
DEC
To SSJ PG2526
To SSJ PG2527

DEC (DECODER) — SIDE·A —
(PATTERN No.152107-4)


F
E
D
C
B
A
1
2
IC501
Q403
Q406
Q408
Q409
Q410
Q411
Q501R
Q501L
Q502
Q505
D501

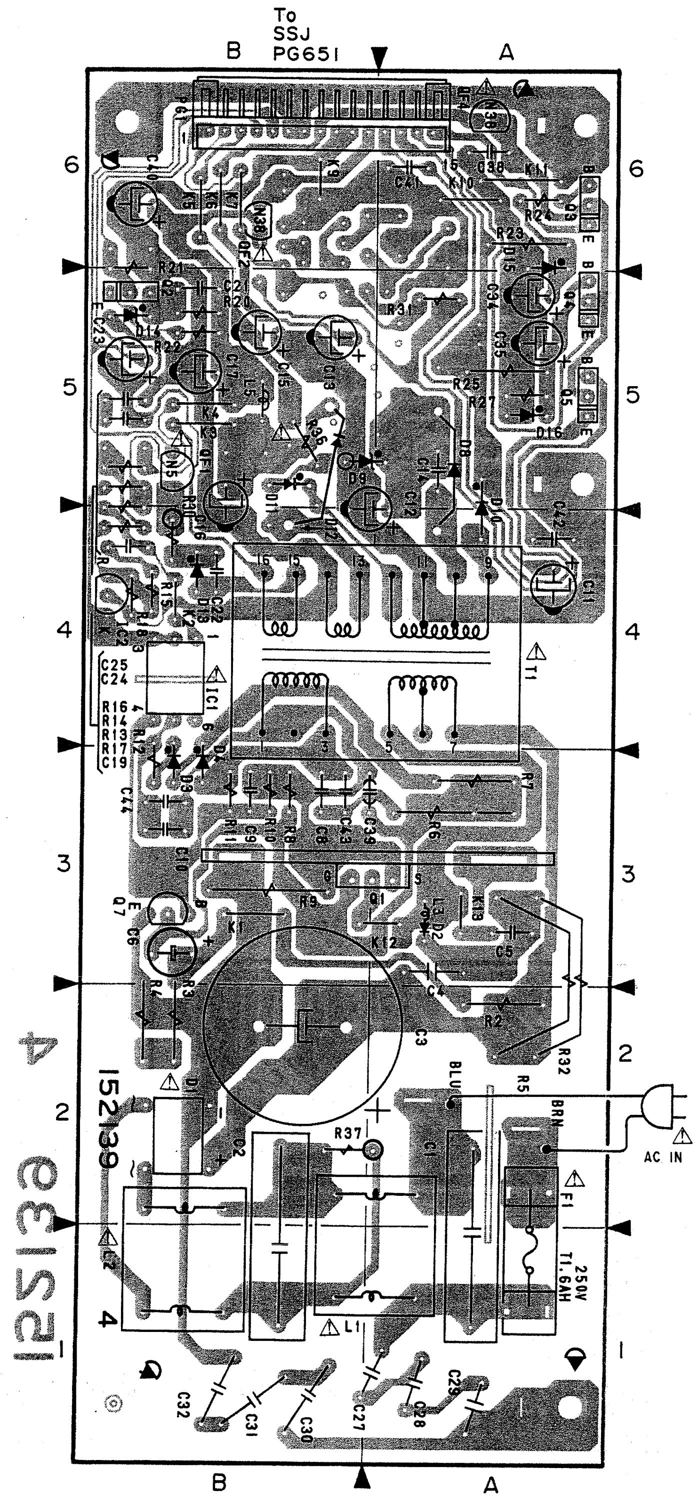
NOTE : MARK "Ⓩ" IS LEADLESS (CHIP) JUMPER.

HFA (Hi-Fi AUDIO) — SIDE·B —

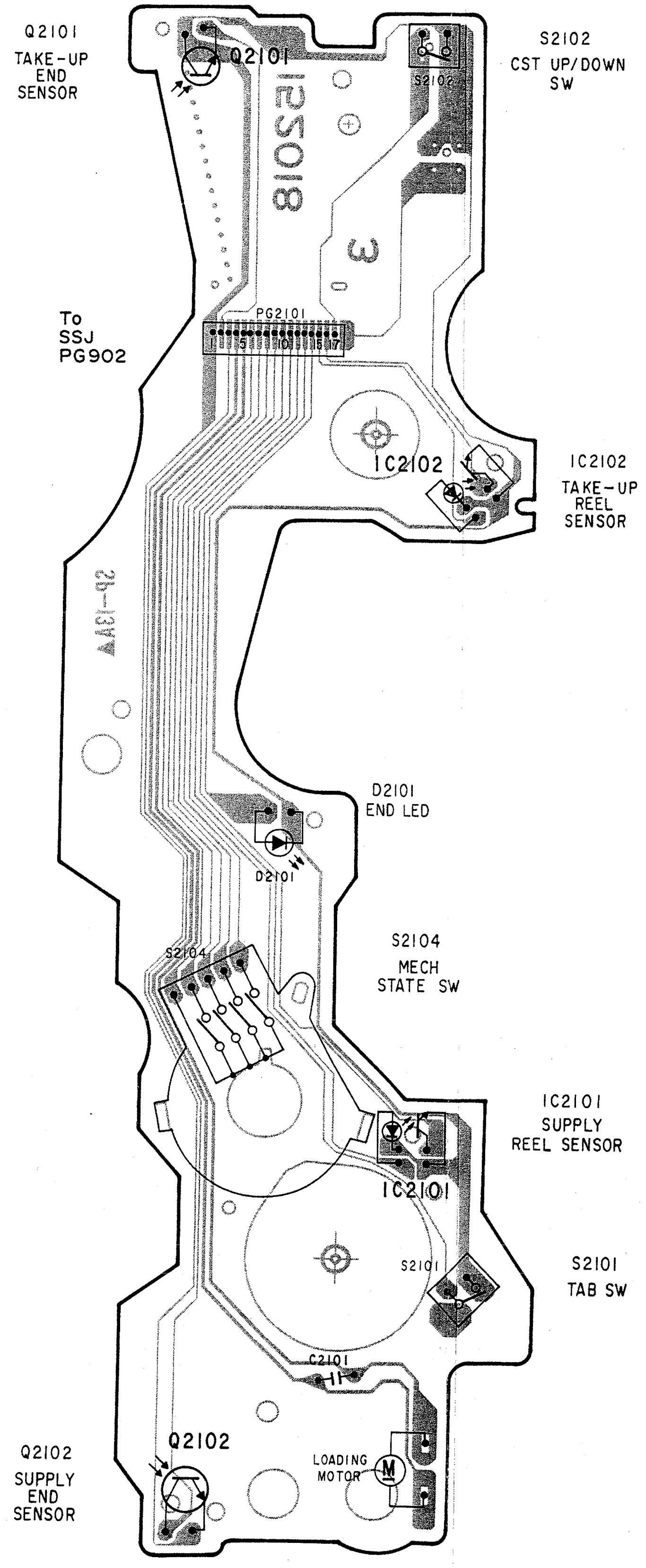

B
A
1
2
D4551
Q4552
Q4553
Q4561

DEC (DECODER) — SIDE·B —

SWR, MWB CIRCUIT BOARDS


To
SSJ
PG651
B
A
6
5
4
3
2
1
AC IN
250V
T1.6AH
152139
4
T1
IC1
F1
L1
R37
BLU
BRN
R5
R32

SWR 〔SWITCHING REGULATOR〕
〔PATTERN No. 152139-4〕


Q2101
TAKE-UP
END
SENSOR
S2102
CST UP/DOWN
SW
To
SSJ
PG902
PG2101
152018
3
IC2102
TAKE-UP
REEL
SENSOR
D2101
END LED
S2104
MECH
STATE SW
IC2101
SUPPLY
REEL SENSOR
S2101
TAB SW
C2101
Q2102
SUPPLY
END
SENSOR
LOADING
MOTOR

MWB 〔SENSOR〕
〔PATTERN No. 152018-3〕

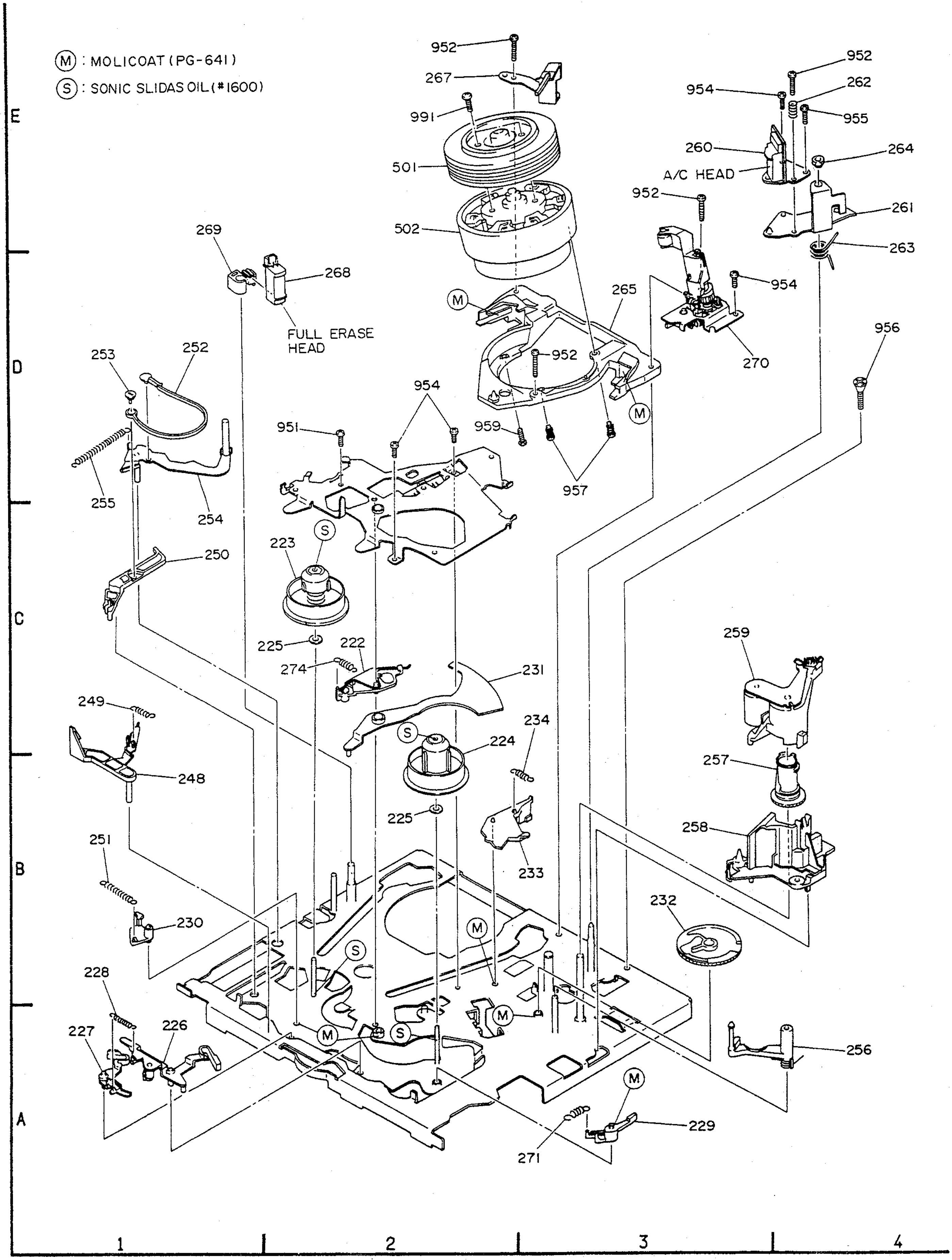
IDENTIFICATION OF PARTS LOCATION

SWR 〔SWITCHING REGULATOR〕

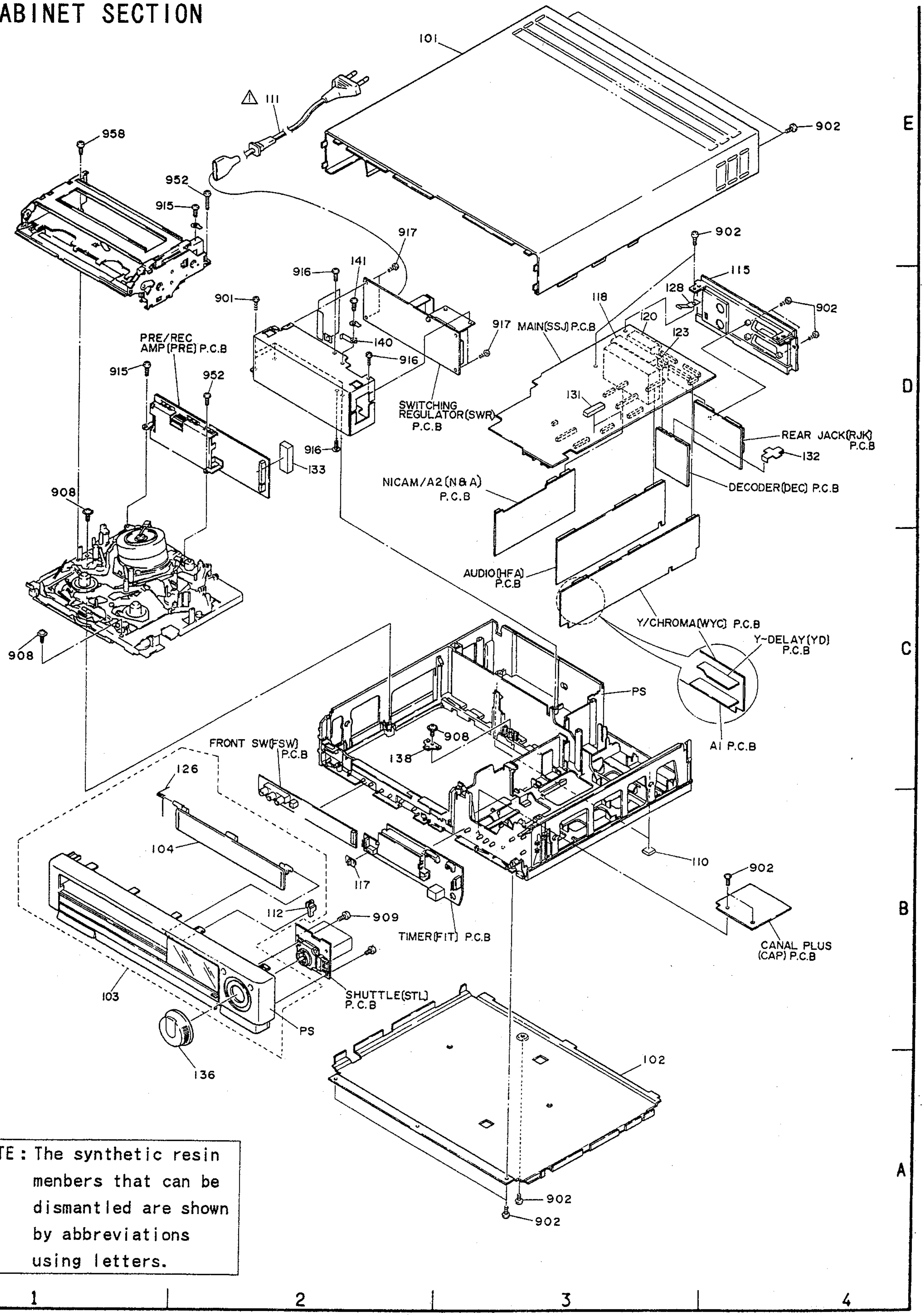
Symbol No.	Parts Location
C	
C1	1A
C2	1B
C3	2B
C4	3A
C5	3A
C6	3B
C8	3B
C9	3B
C10	3B
C11	4A
C12	4B
C13	5B
C14	5A
C15	5B
C16	4B
C17	5B
C19	4B
C21	5B
C22	4B
C23	5B
C24	5B
C25	5B
C27	1A
C28	1A
C29	1A
C30	1B
C31	1B
C32	1B
C34	5A
C35	5A
C38	6A
C39	3B
C40	6B
C41	6A
C42	4A
C43	3B
C44	3B
D	
D1	2B
D2	3A
D3	3B
D4	3B
D8	5A
D9	5B
D10	4A
D11	5B
D12	5B
D13	4B
D14	5B
D15	6A
D16	5A
F	
F1	1A
IC	
IC1	4B
IC2	4B
L	
L1	1A
L2	1B
L3	3A
L5	5B
PG	
PG1	6B
Q	
Q1	3A
Q2	5B
Q3	6A
Q4	5A
Q5	5A
Q7	3B
QF	
QF1	5B
QF2	6B
QF4	6A
R	
R2	2A
R3	2B
R4	2B
R5	2A
R6	3A
R7	3A
R8	3B
R9	3B
R10	3B
R11	3B
R12	3B
R13	4B
R14	5B
R15	4B
R16	5B
R17	4B
R18	4B
R20	5B
R21	6B
R22	5B
R23	6A
R24	6A
R25	5A
R27	5A
R30	4B
R31	5A
R32	2A
R36	5B
R37	2B
T	
T1	4A

CHASSIS (I) SECTION

Ⓜ : MOLICOAT (PG-641)
Ⓢ : SONIC SLIDAS OIL (#1600)

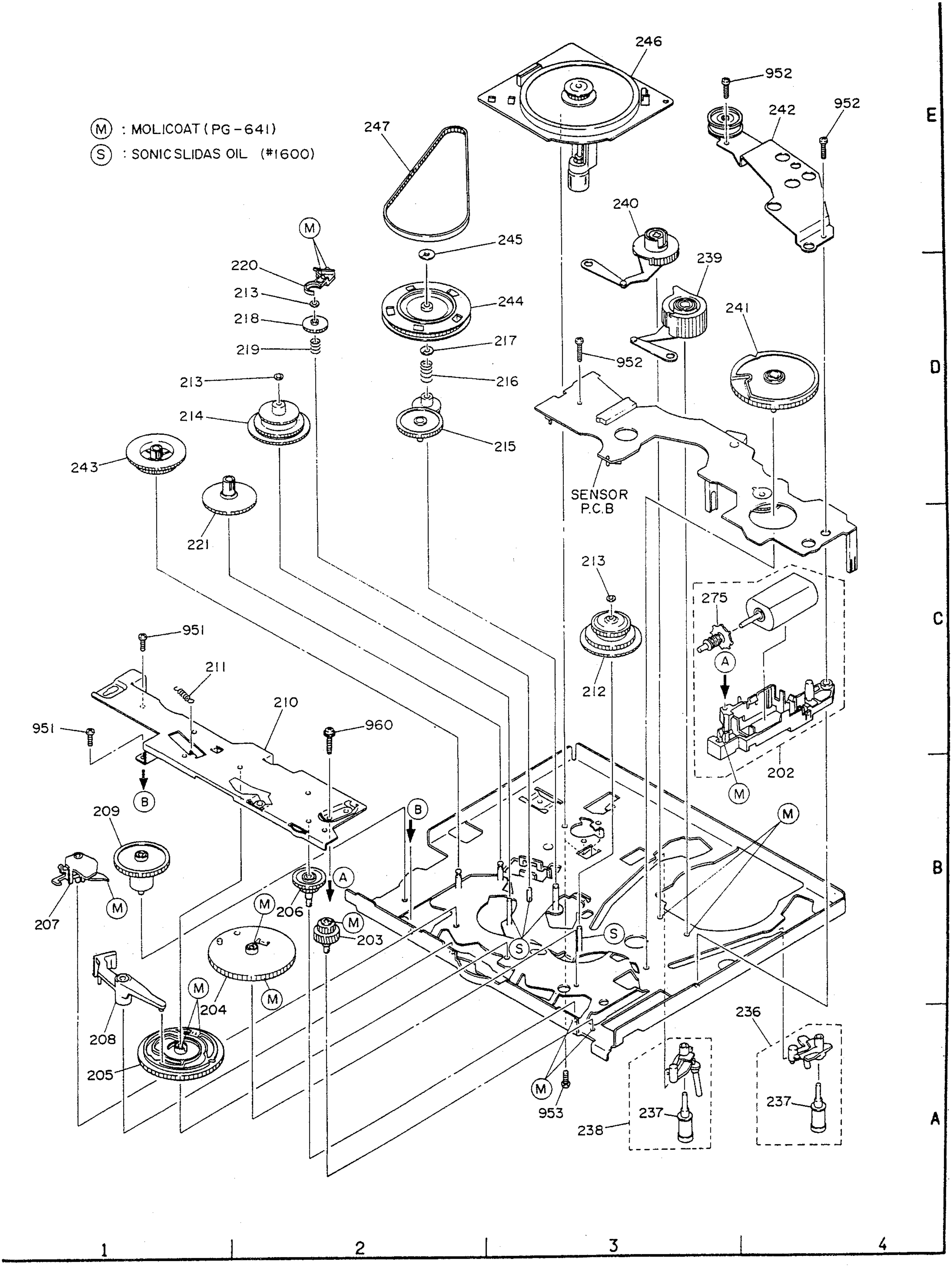

E
D
C
B
A
1
2
3
4
952
267
991
501
502
952
262
954
955
260
264
A/C HEAD
952
261
263
954
265
270
956
269
268
FULL ERASE HEAD
M
952
M
253
252
255
254
951
954
959
957
250
223
S
225
222
274
231
249
248
224
S
234
225
233
259
257
258
251
230
232
M
S
228
227
226
M
M
S
M
256
229
271

EXPLODED VIEWS
CABINET SECTION


101
111
902
958
952
915
917
141
916
901
917
MAIN(SSJ) P.C.B
118
128
115
120
123
902
PRE/REC AMP(PRE) P.C.B
915
952
140
916
SWITCHING REGULATOR(SWR) P.C.B
131
REAR JACK(RJK) P.C.B
132
916
133
NICAM/A2(N&A) P.C.B
DECODER(DEC) P.C.B
908
AUDIO(HFA) P.C.B
Y/CHROMA(WYC) P.C.B
Y-DELAY(YD) P.C.B
908
PS
FRONT SW(FSW) P.C.B
908
138
AI P.C.B
126
104
110
117
902
112
909
TIMER(FIT) P.C.B
CANAL PLUS (CAP) P.C.B
103
SHUTTLE(STL) P.C.B
PS
136
102
902
902
E
D
C
B
A
1
2
3
4

NOTE : The synthetic resin menbers that can be dismantled are shown by abbreviations using letters.

CHASSIS (II) SECTION

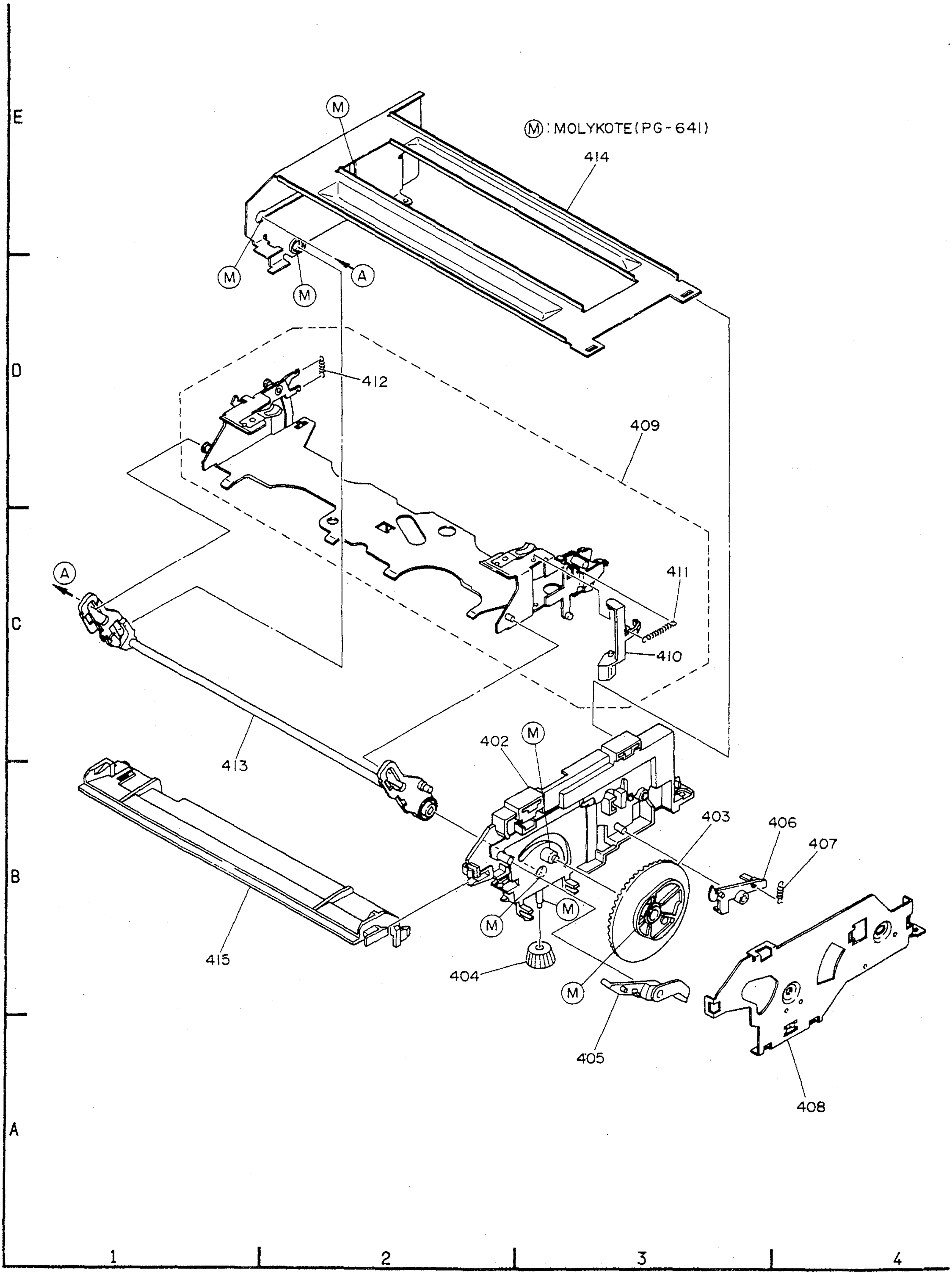


Ⓜ : MOLICOAT (PG-641)

Ⓢ : SONICSLIDAS OIL (#1600)

246
952
242
952
E
247
240
239
M
220
245
213
244
218
241
217
219
952
D
213
216
214
215
243
SENSOR P.C.B
221
213
275
C
A
951
211
212
210
951
960
202
B
M
209
B
M
B
A
207
M
206
M
203
S
S
M
204
M
208
M
205
236
M
953
237
238
237
A
1
2
3
4

CASSETTE LOADING MECHANISM SECTION


Ⓜ : MOLYKOTE(PG-641)
E
D
C
B
A
1
2
3
4
414
Ⓜ
Ⓜ
Ⓜ
Ⓐ
412
409
411
410
Ⓐ
413
402
Ⓜ
403
406
407
415
Ⓜ
Ⓜ
404
Ⓜ
405
408

2. ELECTRICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR ACCESSARIES
802	5616564	REMOTE HAND SET
803	5861281	MINI CONNECTOR

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C0203	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0205	0893082	CERAMIC CHIP 0.022UF
C0207	0800072	ELECTROLYTIC 470UF 6.3V
C0208	0800175	ELECTROLYTIC 1.0UF 50V
C0209	0800015	ELECTROLYTIC 10UF 16V
C0210	0800072	ELECTROLYTIC 470UF 6.3V
C0212	0800015	ELECTROLYTIC 10UF 16V
C0213	0209894	CERAMIC CHIP 27PF+-10% 50V
C0215	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0216	0209899	CERAMIC DISC 120PF+-5% 50V
C0217	0209854	CERAMIC DISC 330PF+-5% 50V
C0218	0209854	CERAMIC DISC 330PF+-5% 50V
C0219	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0220	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0221	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0222	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0223	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0224	0880017	POLYESTER FILM 0.15UF+-10% 50V
C0225	0209856	CERAMIC DISC 220PF+-5% 50V
C0226	0209896	CERAMIC CHIP 47PF+-5% 50V
C0227	0209848	CERAMIC DISC 150PF+-5% 50V
C0228	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0229	0893082	CERAMIC CHIP 0.022UF
C0230	0800038	ELECTROLYTIC 47UF 6.3V
C0231	0209852	CERAMIC CHIP 180PF+-5% 50V
C0232	0209903	CERAMIC CHIP 470PF+-5% 50V
C0239	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0240	0209847	CERAMIC CHIP 82PF+-10% 50V
C0241	0209896	CERAMIC CHIP 47PF+-5% 50V
C0242	0209854	CERAMIC DISC 330PF+-5% 50V
C0243	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0244	0800179	ELECTROLYTIC 10UF 16V
C0245	0209897	CERAMIC CHIP 56PF+-5% 50V
C0246	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0247	0800179	ELECTROLYTIC 10UF 16V
C0248	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0250	0800038	ELECTROLYTIC 47UF 6.3V
C0251	0893082	CERAMIC CHIP 0.022UF
C0255	0800038	ELECTROLYTIC 47UF 6.3V
C0262	0209941	CERAMIC DISC 82PF+-5%
C0263	0893082	CERAMIC CHIP 0.022UF
C0265	0800177	ELECTROLYTIC 3.3UF 50V
C0267	0893082	CERAMIC CHIP 0.022UF
C0274	0209854	CERAMIC DISC 330PF+-5% 50V
C0275	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C0277	0800185	ELECTROLYTIC 47UF 6.3V
C0278	0893082	CERAMIC CHIP 0.022UF
C0280	0893082	CERAMIC CHIP 0.022UF
C0282	0209851	CERAMIC DISC 15PF+-5% 50V
C1251	0209848	CERAMIC DISC 150PF+-5% 50V
C1253	0893062	CERAMIC CHIP 1UF+80-20% 16V
C1254	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1401	0209930	CERAMIC CHIP 10PF+-0.5% 50V
C1402	0209933	CERAMIC CHIP 18PF+-5% 50V
C1406	0209936	CERAMIC CHIP 33PF+-5% 50V
C1407	0800186	ELECTROLYTIC 47UF 16V
C1409	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C1410	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1411	0800039	ELECTROLYTIC 47UF 10V
C1412	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C1413	0207456	ELECTROLYTIC 1UF 50V

REPLACEMENT PARTS LIST

1. MECHANICAL PARTS LIST

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6009461	COVER, TOP
102	6009472	COVER, BOTTOM
103	4725193	PANEL, FRONT
104	4723414	DOOR, CASSETTE
110	4330711	LEG
⚠111	5850797	CORD, POWER
112	4590321	STOPPER, DOOR
115	4725652	PANEL, REAR
117	4743691	KNOB
118	1730491	TUNER IF UNIT
120	5587821	CONVERTER, RF
123	5886821	CABLE
126	6551851	SPRING, DOOR
128	4842811	PLATE
131	6562924	RUBBER
132	6800081	CBA SUPPORT
133	6562928	RUBBER
136	4743803	KNOB, SHUTTLE
138	7429641	BRACKET
140	6529132	PLATE
141	8741406	SCREW(3X6)
202	6500761	MOTOR, LOADING
203	6441371	GEAR
204	6441392	GEAR
205	6441403	GEAR
206	6441381	GEAR
207	6823133	ARM
208	6823171	ARM, OPERATION
209	6441421	GEAR
210	6500332	PLATE
211	6558551	SPRING
212	6405181	GEAR
213	7788347	WASHER
214	6405191	GEAR
215	6401445	ARM
216	6522979	SPRING
217	6500841	WASHER
218	6441433	GEAR, CHANGE
219	6522978	SPRING
220	6823183	ARM
221	6441411	GEAR
222	6823314	ARM
223	6416631	REEL, TABLE(S)
224	6416652	REEL, TABLE(T)
225	4583333	WASHER
226	6823195	ARM, BRAKE(R)
227	6823229	ARM, BRAKE(L)
228	6318613	SPRING
229	6823271	BRAKE
230	6823261	BRAKE
231	6500414	ARM
232	6823251	GEAR
233	6823292	BRAKE
234	6558452	SPRING
236	6638942	BASE, GUIDE ROLLER(I)
237	4583124	GUIDE ROLLER
238	6638954	BASE, GUIDE ROLLER(O)
239	6500505	GEAR, LOADING(L)
240	6500464	GEAR, LOADING(R)
241	6823536	GEAR, MODE
242	6500549	BRACKET
243	6823541	GEAR
244	6823333	PULLEY
245	6500841	WASHER
246	1470083	DC MOTOR
247	6358101	BELT
248	6823423	ARM
249	6553361	SPRING
250	6823435	ARM
251	6553301	SPRING
252	6823473	BAND, TENSION
253	6823511	SHAFT
254	6500684	ARM, TENSION
255	6553352	SPRING
256	6638934	ARM
257	6823521	GEAR, CAM
258	6823445	BRACKET
259	6500431	ROLLER, PRESSURE
260	5434151	HEAD, AUDIO CONTROL
261	6500593	BASE, AC HEAD
262	6304906	SPRING
263	6553151	SPRING
264	7785673	NUT
265	6638903	BASE, CYLINDER
267	5794062	BRUSH
268	5423071	HEAD, FULL ERASE
269	6823462	BASE, HEAD
270	6500705	BRACKET
271	6558502	SPRING
274	6320576	SPRING
275	6816211	WORM
402	6823612	BRACKET
403	6823621	GEAR
404	6823631	GEAR
405	6823642	ARM
406	6823652	ARM
407	6558531	SPRING
408	6500612	BRACKET
409	6500622	HOLDER
410	6823691	ARM
411	6558541	SPRING
412	6558561	SPRING
413	6823663	ARM
414	6500671	BRACKET
415	6823701	HOLDER
501	5435721	CYLINDER, UPPER (CY-G6S1)
502	5435711	CYLINDER, ASSY (CY-G6S1)
901	8699410	SCREW(3X10)
902	8699412	SCREW (3X12) BLACK
908	7781138	SCREW(3X10BT)
909	8691308	SCREW BT2.6MMDX8MM
915	0671305	DT SCREW-2.6MMDX5MM
916	8741406	SCREW(3X6)
917	8611406	SCREW(3X6)
951	0711304	SCREW(2.6X4)
952	0711312	PAN HEAD SCREW - 2.6MMD X 12MM
953	8691306	BT SCREW 2.6MM
954	0711306	PAN HEAD SCREW-2.6MMDX6MM
955	7773741	SCREW
956	45281813	SCREW
957	7775582	SCREW
958	7773761	SCREW
959	8741408	SCREW (B3X8)
960	8650914	SCREW(2.6X14)
991	7784131	SCREW (3X8)

SYMBOL-NO	P-NO	DESCRIPTION
C1414	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1415	0800003	ELECTROLYTIC 1UF 50V
C1416	0209852	CERAMIC CHIP 180PF+-5% 50V
C1417	0207456	ELECTROLYTIC 1UF 50V
C1418	0893032	CERAMIC CHIP 1200PF+-10% 50V
C1419	0893042	CERAMIC CHIP 6800PF+-10% 50V
C1420	0209929	CERAMIC CHIP 9.0PF+-0.5% 50V
C1703	0890026	CERAMIC DISC 220PF+-10% 50V
C1801	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1802	0800041	ELECTROLYTIC 47UF 16V
C1803	0209903	CERAMIC CHIP 470PF+-5% 50V
C1804	0209934	CERAMIC CHIP 22PF+-5% 50V
C1805	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1806	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1807	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1808	0800015	ELECTROLYTIC 10UF 16V
C1810	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1812	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1813	0800041	ELECTROLYTIC 47UF 16V
C1814	0800041	ELECTROLYTIC 47UF 16V
C1816	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C1817	0207458	ELECTROLYTIC 10UF 25V
C1818	0207458	ELECTROLYTIC 10UF 25V
C1821	0207458	ELECTROLYTIC 10UF 25V
C1822	0207458	ELECTROLYTIC 10UF 25V
C1823	0800041	ELECTROLYTIC 47UF 16V
C1825	0800041	ELECTROLYTIC 47UF 16V
C1826	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1827	0800041	ELECTROLYTIC 47UF 16V
C1828	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1829	0800015	ELECTROLYTIC 10UF 16V
C1830	0207458	ELECTROLYTIC 10UF 25V
C1831	0800003	ELECTROLYTIC 1UF 50V
C1832	0800003	ELECTROLYTIC 1UF 50V
C1833	0880003	POLYESTER FILM 1000PF+-10% 50V
C1834	0209856	CERAMIC DISC 220PF+-5% 50V
C1851	0800005	ELECTROLYTIC 2.2UF 50V
C1852	0800005	ELECTROLYTIC 2.2UF 50V
C1853	0207453	ELECTROLYTIC 2.2UF 50V
C1854	0880062	POLYESTER FILM 0.22UF+-10% 50V
C1855	0800049	ELECTROLYTIC 100UF 16V
C1856	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1857	0800041	ELECTROLYTIC 47UF 16V
C1858	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C1859	0800005	ELECTROLYTIC 2.2UF 50V
C1860	0800005	ELECTROLYTIC 2.2UF 50V
C1861	0800005	ELECTROLYTIC 2.2UF 50V
C1862	0800011	ELECTROLYTIC 4.7UF 35V
C1863	0800011	ELECTROLYTIC 4.7UF 35V
C1864	0800005	ELECTROLYTIC 2.2UF 50V
C1865	0800005	ELECTROLYTIC 2.2UF 50V
C1866	0207453	ELECTROLYTIC 2.2UF 50V
C1867	0207453	ELECTROLYTIC 2.2UF 50V
C1868	0207453	ELECTROLYTIC 2.2UF 50V
C1873	0800011	ELECTROLYTIC 4.7UF 35V
C1874	0800011	ELECTROLYTIC 4.7UF 35V
C2101	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2283	0800185	ELECTROLYTIC 47UF 6.3V
C2284	0800179	ELECTROLYTIC 10UF 16V
C2286	0207444	ELECTROLYTIC 1.0UF 50V
C2287	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2301	0800185	ELECTROLYTIC 47UF 6.3V
C2302	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C2303	0800177	ELECTROLYTIC 3.3UF 50V
C2305	0209853	CERAMIC DISC 68PF+-5% 50V
C2306	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C2307	0880015	POLYESTER FILM 0.068UF+-10% 50V
C2308	0800179	ELECTROLYTIC 10UF 16V
C2309	0800183	ELECTROLYTIC 330UF 10V
C2506	0800049	ELECTROLYTIC 100UF 16V
C2507	0800049	ELECTROLYTIC 100UF 16V
C2508	0800048	ELECTROLYTIC 100UF 10V
C2509P	0800015	ELECTROLYTIC 10UF 16V
C2510P	0800039	ELECTROLYTIC 47UF 10V
C2511	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2512	0800041	ELECTROLYTIC 47UF 16V
C2514	0800178	ELECTROLYTIC 4.7UF 35V
C2515	0800074	ELECTROLYTIC 470UF 16V
C2516	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2517	0800012	ELECTROLYTIC 4.7UF 50V
C2518	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C2519	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C2520	0800186	ELECTROLYTIC 47UF 16V
C2521	0800003	ELECTROLYTIC 1UF 50V
C2522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2523	0800041	ELECTROLYTIC 47UF 16V
C2524	0800039	ELECTROLYTIC 47UF 10V
C2526	0800048	ELECTROLYTIC 100UF 10V
C2528	0800003	ELECTROLYTIC 1UF 50V
C2529	0207454	ELECTROLYTIC 47UF 10V
C2530	0800041	ELECTROLYTIC 47UF 16V
C2531	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C2532	0800039	ELECTROLYTIC 47UF 10V
C2535	0800039	ELECTROLYTIC 47UF 10V
C2539	0209894	CERAMIC CHIP 27PF+-10% 50V
C3201	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3202	0800185	ELECTROLYTIC 47UF 6.3V
C3203	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3204	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3205	0209895	CERAMIC CHIP 39PF+-5% 50V
C3206	0893079	CERAMIC DISC 0.01UF+80-20% 50V
C3207	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C3208	0800179	ELECTROLYTIC 10UF 16V
C3209	0800178	ELECTROLYTIC 4.7UF 35V
C3210	0209896	CERAMIC CHIP 47PF+-5% 50V
C3211	0800176	ELECTROLYTIC 2.2UF 50V
C3212	0893086	CERAMIC CHIP 0.1UF+80-20% 50V
C3213	0209848	CERAMIC DISC 150PF+-5% 50V
C3214	0209895	CERAMIC CHIP 39PF+-5% 50V
C3215	0893033	CERAMIC CHIP 1500PF+-10% 50V
C401	0800032	ELECTROLYTIC 33UF 16V
C402	0893037	CERAMIC CHIP 3300PF+-10% 50V
C403	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C404	0268449	MYLAR 0.047UF+-5% 50V
C405	0209856	CERAMIC DISC 220PF+-5% 50V
C406	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C407	0800041	ELECTROLYTIC 47UF 16V
C409	0893002	CERAMIC CHIP 0.033UF+-10% 16V
C410	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C412	0209906	CERAMIC DISC 820PF+-5% 50V
C413	0893036	CERAMIC CHIP 0.0027UF+-10% 50V
C414	0800022	ELECTROLYTIC 22UF 10V
C415	0880011	POLYESTER FILM 0.015UF+-10% 50V
C416	0800128	ELECTROLYTIC 22UF 16V
C417	0800122	ELECTROLYTIC 10UF 16V
C418	0800122	ELECTROLYTIC 10UF 16V
C420	0800122	ELECTROLYTIC 10UF 16V
C421	0800122	ELECTROLYTIC 10UF 16V
C422	0893031	CERAMIC CHIP 1000PF+-10% 50V
C424	0209938	CERAMIC CHIP 47PF+-5% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C4505	0255138	ELECTROLYTIC 470UF 6.3V
C4506	0255138	ELECTROLYTIC 470UF 6.3V
C4507	0800186	ELECTROLYTIC 47UF 16V
C4508	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C4509	0800109	ELECTROLYTIC 1.0UF 50V
C4510	0800109	ELECTROLYTIC 1.0UF 50V
C4551	0800186	ELECTROLYTIC 47UF 16V
C4552	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C4554	0800175	ELECTROLYTIC 1.0UF 50V
C4555	0800184	ELECTROLYTIC 33UF 25V
C471LR	0207458	ELECTROLYTIC 10UF 25V
C474LR	0800176	ELECTROLYTIC 2.2UF 50V
C475LR	0800175	ELECTROLYTIC 1.0UF 50V
C477	0800011	ELECTROLYTIC 4.7UF 35V
C478	0800038	ELECTROLYTIC 47UF 6.3V
C479	0207457	ELECTROLYTIC 4.7UF 50V
C491	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C501	0800051	ELECTROLYTIC 100UF 25V
C502	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C503L	0800118	ELECTROLYTIC 4.7UF 35V
C503R	0800118	ELECTROLYTIC 4.7UF 35V
C504L	0800118	ELECTROLYTIC 4.7UF 35V
C504R	0800118	ELECTROLYTIC 4.7UF 35V
C505L	0800118	ELECTROLYTIC 4.7UF 35V
C505R	0800118	ELECTROLYTIC 4.7UF 35V
C506L	0800118	ELECTROLYTIC 4.7UF 35V
C506R	0800118	ELECTROLYTIC 4.7UF 35V
C508L	0800032	ELECTROLYTIC 33UF 16V
C508R	0800183	ELECTROLYTIC 330UF 10V
C509L	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C509R	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C510L	0800112	ELECTROLYTIC 2.2UF 50V
C510R	0800112	ELECTROLYTIC 2.2UF 50V
C511L	0800041	ELECTROLYTIC 47UF 16V
C511R	0800141	ELECTROLYTIC 47UF 16V
C512L	0880011	POLYESTER FILM 0.015UF+-10% 50V
C512R	0880011	POLYESTER FILM 0.015UF+-10% 50V
C513	0800127	ELECTROLYTIC 220UF 10V
C514L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C514R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C515L	0893031	CERAMIC CHIP 1000PF+-10% 50V
C515R	0893031	CERAMIC CHIP 1000PF+-10% 50V
C516L	0800048	ELECTROLYTIC 100UF 10V
C516R	0800048	ELECTROLYTIC 100UF 10V
C517L	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C517R	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C518	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C519	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C520	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C521	0800139	ELECTROLYITC 47UF 10V
C522	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C523	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C524	0209900	CERAMIC CHIP 270PF+-5% 50V
C530	0800041	ELECTROLYTIC 47UF 16V
C531	0800122	ELECTROLYTIC 10UF 16V
C532	0893039	CERAMIC CHIP 4700PF+-10% 50V
C534	0800122	ELECTROLYTIC 10UF 16V
C536	0800122	ELECTROLYTIC 10UF 16V
C539	0207457	ELECTROLYTIC 4.7UF 50V
C548	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C5501L	0800015	ELECTROLYTIC 10UF 16V
C5501R	0800015	ELECTROLYTIC 10UF 16V
C5502L	0800015	ELECTROLYTIC 10UF 16V
C5502R	0800015	ELECTROLYTIC 10UF 16V
C5503L	0800015	ELECTROLYTIC 10UF 16V
C5503R	0800015	ELECTROLYTIC 10UF 16V
C5504L	0800015	ELECTROLYTIC 10UF 16V
C5504R	0800015	ELECTROLYTIC 10UF 16V
C5505L	0800015	ELECTROLYTIC 10UF 16V
C5505R	0800015	ELECTROLYTIC 10UF 16V
C5506	0800074	ELECTROLYTIC 470UF 16V
C5507L	0800015	ELECTROLYTIC 10UF 16V
C5507R	0800015	ELECTROLYTIC 10UF 16V
C550L	0800118	ELECTROLYTIC 4.7UF 35V
C550R	0800118	ELECTROLYTIC 4.7UF 35V
C552	0800118	ELECTROLYTIC 4.7UF 35V
C601	0893031	CERAMIC CHIP 1000PF+-10% 50V
C602	0800031	ELECTROLYTIC 33UF 10V
C603	0800179	ELECTROLYTIC 10UF 16V
C604	0209893	CERAMIC CHIP 22PF+-10% 50V
C606	0893037	CERAMIC CHIP 3300PF+-10% 50V
C607	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C608	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C609	0209903	CERAMIC CHIP 470PF+-5% 50V
C611	0880018	POLYESTER FILM 0.22UF+-10% 50V
C612	0800005	ELECTROLYTIC 2.2UF 50V
C613	0207456	ELECTROLYTIC 1UF 50V
C614	0893051	CERAMIC CHIP 0.033UF+-10% 50V
C615	0207459	ELECTROLYTIC 0.47UF 50V
C616	0254454	ELECTROLYTIC 10UF 16V
C617	0893016	CERAMIC CHIP 0.015UF+-10% 25V
C618	0800015	ELECTROLYTIC 10UF 16V
C619	0893033	CERAMIC CHIP 1500PF+-10% 50V
C620	0207401	ELECTROLYTIC 0.33UF 50V
C621	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C622	0800047	ELECTROLYTIC 100UF 6.3V
C623	0800179	ELECTROLYTIC 10UF 16V
C624	0209854	CERAMIC DISC 330PF+-5% 50V
C625	0800179	ELECTROLYTIC 10UF 16V
C626	0209899	CERAMIC DISC 120PF+-5% 50V
C627	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C628	0800182	ELECTROLYTIC 22UF 16V
C635	0890043	CERAMIC DISC 0.01UF+-20% 16V
C640	0893025	CERAMIC CHIP 0.068UF+-10% 25V
C641	0893039	CERAMIC CHIP 4700PF+-10% 50V
C642	0890039	CERAMIC DISC 4700PF+-20% 16V
C646	0800176	ELECTROLYTIC 2.2UF 50V
C647	0800186	ELECTROLYTIC 47UF 16V
C650	0207406	ELECTROLYTIC 10UF 10V
C701	0890024	CERAMIC DISC 150PF+-10% 50V
C702	0890043	CERAMIC DISC 0.01UF+-20% 16V
C703	0800186	ELECTROLYTIC 47UF 16V
C901	0209856	CERAMIC DISC 220PF+-5% 50V
C903	0209856	CERAMIC DISC 220PF+-5% 50V
C904	0209846	CERAMIC CHIP 33PF+-10% 50V
C905	0209856	CERAMIC DISC 220PF+-5% 50V
C906	0209846	CERAMIC CHIP 33PF+-10% 50V
C908	0209854	CERAMIC DISC 330PF+-5% 50V
C913	0209846	CERAMIC CHIP 33PF+-10% 50V
C917	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C918	0800038	ELECTROLYTIC 47UF 6.3V
C919	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C922	0209935	CERAMIC CHIP 27PF+-5% 50V
C923	0209932	CERAMIC CHIP 15PF+-5% 50V
C924	0800038	ELECTROLYTIC 47UF 6.3V
C925	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C926	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C927	0800038	ELECTROLYTIC 47UF 6.3V
C928	0217516	CAPACITOR 0.047UF+80-20% 5V
C929	0800003	ELECTROLYTIC 1UF 50V

SYMBOL-NO	P-NO	DESCRIPTION
C930	0800003	ELECTROLYTIC 1UF 50V
C931	0209898	CERAMIC CHIP 100PF+-5% 50V
C932	0893031	CERAMIC CHIP 1000PF+-10% 50V
C933	0893031	CERAMIC CHIP 1000PF+-10% 50V
C934	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C935	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C936	0800033	ELECTROLYTIC 33UF 25V
C937	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C939	0800183	ELECTROLYTIC 330UF 10V
C940	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C941	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C942	0893018	CERAMIC CHIP 0.022UF+-10% 25V
C943	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C944	0893053	CERAMIC CHIP 0.047UF+-10% 50V
C946	0893055	CERAMIC CHIP 0.1UF+80-20% 16V
C950	0893053	CERAMIC CHIP 0.047UF+-10% 50V
		RESISTORS
R0201	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0202	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0203	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0204	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0206	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0207	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R0209	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0210	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0211	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0212	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0213	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0214	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0215	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0216	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R0217	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0218	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0219	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0220	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0221	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0223	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0224	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R0225	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0226	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0227	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0228	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0229	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0230	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0231	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0232	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0234	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0235	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0236	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0237	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R0238	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0239	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R0240	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0242	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0244	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R0245	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R0248	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R0249	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R0250	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0252	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0253	0103833	CHIP RESISTOR 150 OHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R0254	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0257	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0258	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0259	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0260	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R0261	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0264	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0265	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R0266	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0267	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R0268	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0278	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0279	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0280	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R0281	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0282	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0283	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0284	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R0289	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0294	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0297	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R0298	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1251	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1252	0700038	CARBON FILM 680OHM+-5% 1/8W
R1253	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1254	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1255	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1256	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1257	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R1401	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1404	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1405	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R1406	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1408	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1409	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1411	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1412	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1413	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1499	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1701	0101400	CARBON FILM 75OHM+-5% 1/8W
R1802	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1803	01038253	CHIP RESISTOR 33OHM+-5% 0.1W
R1804	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R1805	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1806	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1807	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1811	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1812	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1814	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1817	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R1818	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1820	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1822	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1824	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1825	0103830	CHIP RESISTOR 82OHM+-5% 0.1W
R1826	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1827	0103834	CHIP RESISTOR 180OHM+-5% 0.1W
R1828	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R1829	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1832	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1833	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1851	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R1852	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1853	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1854	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W

SYMBOL-NO	P-NO	DESCRIPTION
R1855	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1856	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R1857	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1858	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1859	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1860	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1861	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1862	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1863	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1864	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1871	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1872	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1875	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1876	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1879	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1880	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1885	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R1886	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1887	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R1888	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R1889	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1890	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1891	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R1892	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1893	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R1894	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1895	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1899	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R2298	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2301	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R2302	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2304	01038303	CHIP RESISTOR 82OHM+-5% 0.1W
R2305	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2306	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R2315	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2501L	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2501R	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2502L	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2502R	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2503L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2503R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2504L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2504R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2508L	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R2508R	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R2510L	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R2510R	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R2521	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R2522	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R2523	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2524	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R2525	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2526	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2527	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2528	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R2531	0103832	CHIP RESISTOR 120OHM+-5% 0.1W
R2532	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R2533	0103874	CHIP RESISTOR 390KOHM+-5% 0.1W
R2539	0101838	CARBON FILM 2.7KOHM+-5% 1/4W
R2540P	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R2546	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R2547	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R2548	0700067	CARBON FILM 100KOHM+-5% 1/8W
R3202	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3203	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3204	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3205	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3206	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3207	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3208	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3209	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3210	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R3211	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R3212	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R3213	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R3214	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3215	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3216	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R401	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R402	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R404	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R405	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R406	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R407	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R408	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R409	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R410	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R412	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R414	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R415	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R416	01038343	CHIP RESISTOR 180OHM+-5% 0.1W
R417	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R419	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R420	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R422	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R424	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R425	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R435	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R438	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R438	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R439	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R440	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R441	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R4501L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4501R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4502L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4502R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4507	0103893	CHIP RESISTOR 75 OHM+-5% 1/8W
R4508	0103893	CHIP RESISTOR 75 OHM+-5% 1/8W
R4509	0103893	CHIP RESISTOR 75 OHM+-5% 1/8W
R4510	01038933	CHIP RESISTOR 75 OHM+-5% 1/8W
R4511	0700033	CARBON FILM 270OHM+-5% 1/8W
R4512	0700033	CARBON FILM 270OHM+-5% 1/8W
R4551	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R4552	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R4553	0103877	CHIP RESISTOR 680KOHM+-5% 0.1W
R4554	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R4555	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R4556	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R4557	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R4558	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R4559	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R4560	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R4561	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R4562	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R4563	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R471LR	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R480	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R481L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R481R	0700041	CARBON FILM 1.0KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R482LR	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R486LR	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R487LR	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R488LR	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R490	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R491	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R492	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R493	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R494	0700054	CARBON FILM 10KOHM+-5% 1/8W
R501L	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R501R	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R502L	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R502R	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R503L	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R503R	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R504	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R505L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R505R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506L	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R506R	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R507L	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R507R	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R508L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R508R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R509L	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R509R	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R511	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R512	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R513	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R514L	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R514R	0104124	CHIP RESISTOR 12KOHM+-1% 1/10W
R515L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R515R	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R516	01038743	CHIP RESISTOR 390KOHM+-5% 0.1W
R518	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R523	01038703	CHIP RESISTOR 180KOHM+-5% 0.1W
R524	01038733	CHIP RESISTOR 330KOHM+-5% 0.1W
R525	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R530L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R530R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R531L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R531R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R532L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R532R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R533L	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R533R	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R534L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R534R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R535L	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R535R	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R537	0104123	CHIP RESISTOR 8.2KOHM+-1% 1/10W
R538	0104271	CHIP RESISTOR 15KOHM+-1% 1/10W
R539	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R540	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R543L	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R543R	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R544L	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R544R	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R547	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R5501L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5501R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5502L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5502R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5503L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5503R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5504L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5504R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5505L	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5505R	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5506L	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5506R	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5507L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5507R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5508L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5508R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5509L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5509R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R551	0103868	CHIP RESISTOR 120KOHM+-5% 0.1W
R5510L	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5510R	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5511L	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5511R	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5512L	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5512R	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R5513	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R5514L	0700036	CARBON FILM 470 OHM+-5% 1/8W
R5514R	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R5515L	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R5515R	0700036	CARBON FILM 470 OHM+-5% 1/8W
R558	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R601	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R602	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R603	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R604	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R605	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R606	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R607	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R608	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R612	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R613	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R614	0103872	CHIP RESISTOR 270KOHM+-5% 0.1W
R615	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R616	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R617	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R618	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R619	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R620	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R621	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R622	01038683	CHIP RESISTOR 120KOHM+-5% 0.1W
R623	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R624	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R625	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R626	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R627	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R628	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R629	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R630	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R631	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R632	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R633	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R634	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R636	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R637	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R638	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R639	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R640	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R641	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R642	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R643	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R644	0700049	CARBON FILM 4.7KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R660	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R662	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R663	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R664	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R665	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R668	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R669	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R670	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R671	0103839	CHIP RESISTOR 470OHM+-5% 0.1W
R672	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R673	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R702	0700027	CARBON FILM 100 OHM+-5% 1/8W
R703	0700054	CARBON FILM 10KOHM+-5% 1/8W
R707	0700064	CARBON FILM 56KOHM+-5% 1/8W
R708	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R709	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R710	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R711	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R712	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R713	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R714	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R715	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R716	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R717	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R720	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R722	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R723	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R724	0700053	CARBON FILM 8.2KOHM+-5% 1/8W
R731	0700054	CARBON FILM 10KOHM+-5% 1/8W
R732	0700063	CARBON FILM 47KOHM+-5% 1/8W
R733	0700063	CARBON FILM 47KOHM+-5% 1/8W
R734	0700063	CARBON FILM 47KOHM+-5% 1/8W
R735	0700063	CARBON FILM 47KOHM+-5% 1/8W
R901	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R902	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R903	0700035	CARBON FILM 390OHM+-5% 1/8W
R904	0700037	CARBON FILM 560OHM+-5% 1/8W
R905	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R906	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R907	0700028	CARBON FILM 120OHM+-5% 1/8W
R908	0700033	CARBON FILM 270OHM+-5% 1/8W
R909	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R910	01038323	CHIP RESISTOR 120OHM+-5% 0.1W
R911	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R912	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R913	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R916	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R917	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R918	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R919	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R920	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R921	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R922	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R923	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R924	0700037	CARBON FILM 560OHM+-5% 1/8W
R925	0700035	CARBON FILM 390OHM+-5% 1/8W
R926	0700033	CARBON FILM 270OHM+-5% 1/8W
R927	0700033	CARBON FILM 270OHM+-5% 1/8W
R928	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R929	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R930	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R931	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R933	0700067	CARBON FILM 100KOHM+-5% 1/8W
R934	0700054	CARBON FILM 10KOHM+-5% 1/8W
R935	0700041	CARBON FILM 1.0KOHM+-5% 1/8W

SYMBOL-NO	P-NO	DESCRIPTION
R936	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R939	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R940	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R941	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R942	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R943	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R944	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R945	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R946	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R947	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R951	0700063	CARBON FILM 47KOHM+-5% 1/8W
R952	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R953	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R954	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R955	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R956	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R957	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R958	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R959	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R960	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R961	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R963	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R964	0700062	CARBON FILM 39KOHM+-5% 1/8W
R965	0700062	CARBON FILM 39KOHM+-5% 1/8W
R966	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R967	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R968	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R969	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R970	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R971	0700062	CARBON FILM 39KOHM+-5% 1/8W
R972	0700062	CARBON FILM 39KOHM+-5% 1/8W
R973	0101824	CARBON FILM 180 OHM+-5% 1/4W
R974	0101823	CARBON FILM 150OHM+-5% 1/4W
R975	0700067	CARBON FILM 100KOHM+-5% 1/8W
⚠R976	0101711	FUSE RESISTOR 2.2OHM+-5% 1/4W
R977	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R978	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R979	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R980	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R982	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R983	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R984	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R985	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R986	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R987	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R988	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R989	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R990	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R991	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R992	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R993	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R994	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R995	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R996	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R997	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
RT0201	5030084	TRIMMER 1KOHM
RT2301	5030083	SEMI VARIABLE 470 OHM
RT401	5035081	TRIMMER RESISTOR
RT501L	5035077	SEMI VARIABLE 10KOHM
RT501R	5035076	TRIMMER 4.7KOHM
RT601	5030012	SEMI VARIABLE 220KOHM
		SEMI-CONDUCTORS
D0202	5339141	DIODE 1SS270

SYMBOL-NO	P-NO	DESCRIPTION
Q3204	5328796	TRANSISTOR XDC144EK
Q401	5327021	TRANSISTOR 2SA844CD
Q402	5327102	TRANSISTOR 2SC3533-BC
Q403	5328971	TRANSISTOR 2SC2412KBRST
Q406	5328796	TRANSISTOR XDC144EK
Q408	5328796	TRANSISTOR XDC144EK
Q409	5328796	TRANSISTOR XDC144EK
Q410	5328796	TRANSISTOR XDC144EK
Q410	5328797	TRANSISTOR XDA144EK
Q411	5328796	TRANSISTOR XDC144EK
Q412	5328796	TRANSISTOR XDC144EK
Q4501	5324631	TRANSISTOR 2SA1390C
Q4502	5324631	TRANSISTOR 2SA1390C
Q4551	5328797	TRANSISTOR XDA144EK
Q4552	5328972	TRANSISTOR 2SC2412K-BRT
Q4553	5328796	TRANSISTOR XDC144EK
Q471	1323081	TRANSISTOR 2SA1036K
Q472	5328796	TRANSISTOR XDC144EK
Q475L	5328971	TRANSISTOR 2SC2412KBRST
Q475R	5328971	TRANSISTOR 2SC2412KBRST
Q476	5328971	TRANSISTOR 2SC2412KBRST
Q501L	5328971	TRANSISTOR 2SC2412KBRST
Q501R	5328971	TRANSISTOR 2SC2412KBRST
Q502	5328971	TRANSISTOR 2SC2412KBRST
Q505	5328971	TRANSISTOR 2SC2412KBRST
Q605	5328971	TRANSISTOR 2SC2412KBRST
Q606	5327261	TRANSISTOR 2SB1326(Q)
Q607	5328796	TRANSISTOR XDC144EK
Q608	5327261	TRANSISTOR 2SB1326(Q)
Q609	5328796	TRANSISTOR XDC144EK
Q701	5328796	TRANSISTOR XDC144EK
Q702	5328796	TRANSISTOR XDC144EK
Q703	5328796	TRANSISTOR XDC144EK
Q902	5328971	TRANSISTOR 2SC2412KBRST
Q903	5328962	TRANSISTOR 2SA1037K
Q904	5328962	TRANSISTOR 2SA1037K
Q905	5328796	TRANSISTOR XDC144EK
Q906	5328796	TRANSISTOR XDC144EK
Q907	5328797	TRANSISTOR XDA144EK
Q908	5328971	TRANSISTOR 2SC2412KBRST
⚠QF601	5721943	IC PROTECTOR
⚠QF602	5721943	IC PROTECTOR
ZD2503	5339406	DIODE UTZJ30C
ZD5501	5339262	DIODE HZS6-C2
ZD601	5339262	DIODE HZS6-C2
ZD602	5339262	DIODE HZS6-C2
ZD701	5339257	DIODE HZS4
ZD902	5339478	DIODE HZA11C
		TRANSFORMER
T401	5261533	TRANSFORMER
		COILS
L0201	0770057	CHOKE COIL 100UH+-5%
L0202	0770057	CHOKE COIL 100UH+-5%
L0203	5159155	CHOKE COIL 120UH+-10%
L0204	5159149	CHOKE COIL 47UH
L0205	5159154	CHOKE COIL 100UH
L0206	5121611	COIL
L0207	5121613	COIL
L0208	5121615	COIL
L0209	5121617	COIL
L0211	5121611	COIL
L0212	5159154	CHOKE COIL 100UH
L0213	5121611	COIL
L0215	5159143	CHOKE COIL 15UH
L0216	5121611	COIL
L0217	5159152	CHOKE COIL 68UH
L0218	5159148	CHOKE COIL 39UH
L0220	5159149	CHOKE COIL 47UH
L1201	0770051	CHOKE COIL 33UH+-5%
L1401	5121611	COIL
L1402	5121287	COIL
L1403	5159137	CHOKE COIL 5.6UH+-10%
L1703	5159154	CHOKE COIL 100UH
L1801	5159153	CHOKE COIL 82UH
L1802	0770057	CHOKE COIL 100UH+-5%
L1803	5121611	COIL
L2301	5121611	COIL
L2304	5130431	COIL
L2501	5121611	COIL
L2502	0770057	CHOKE COIL 100UH+-5%
L2503	5121611	COIL
L2504	0770057	CHOKE COIL 100UH+-5%
L2505	0770057	CHOKE COIL 100UH+-5%
L2506	5121611	COIL
L2509	5159136	CHOKE COIL 4.7UH
L3201	5121611	COIL
L401	0770057	CHOKE COIL 100UH+-5%
L402	5159113	COIL, CHOKE 8.2MH
L4551	5121294	COIL 100UH
L501	0770057	CHOKE COIL 100UH+-5%
L502L	0770057	CHOKE COIL 100UH+-5%
L503	0770057	CHOKE COIL 100UH+-5%
L602	0770057	CHOKE COIL 100UH+-5%
L901	5159138	CHOKE COIL 6.8UH
L902	5159142	CHOKE COIL 12UH
		CRYSTALS
X0202	5778871	CRYSTAL
X1401	5779251	CRYSTAL
X1801	5779141	CLYSTAL
X1851	5781631	CRYSTAL
X901	5784475	OSCILLATOR
X902	5783003	CRYSTAL
		MISCELLANEOUS
CF1851	5160561	FILTER
CF1852	5160562	FILTER
CP1801	5165392	FILTER, TRAP
CP2201	5165423	DILAY LINE
CP2301	5160431	BAND PASS FILTER
CT1401	5058495	TRIMMER CAPACITOR
DG701	5315404	FLOURESCENT INDICATER TUBE
DL0203	5786451	DELAY LINE
J1701	5655082	JACK
J1702	5674611	JACK
J4501	5677512	JACK
J4502	5677511	JACK
S1771	5610991	SHUTTLE, SW
S1772	5634884	SWITCH
S1773	5634884	SWITCH
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH
S719	5634884	SWITCH

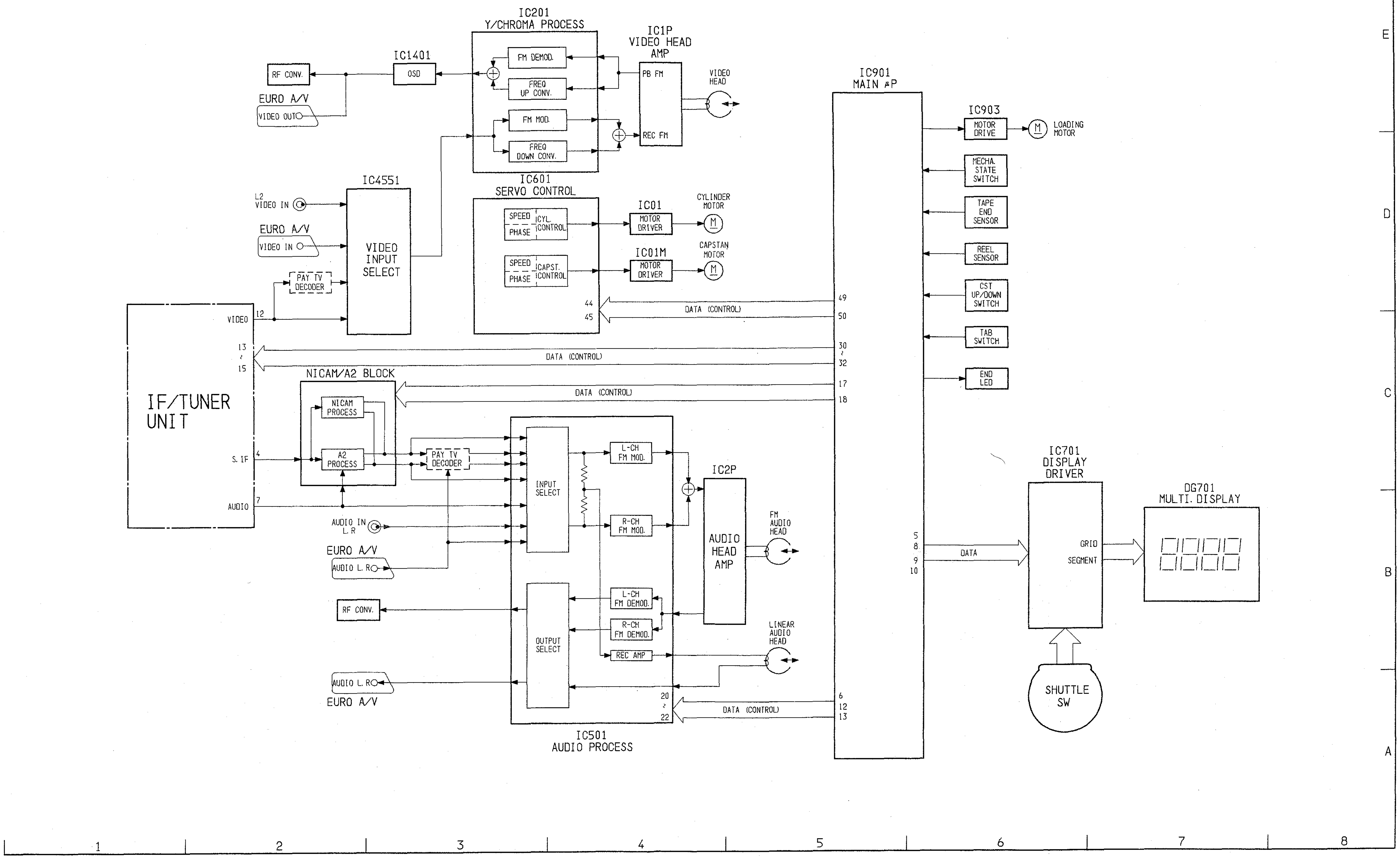
SYMBOL-NO	P-NO	DESCRIPTION
D0203	5339141	DIODE 1SS270
D0209	5339141	DIODE 1SS270
D0210	5328303	DIODE MA152WK (MU)
D0211	5339141	DIODE 1SS270
D0212	5328303	DIODE MA152WK (MU)
D0217	5328303	DIODE MA152WK (MU)
D1201	5339141	DIODE 1SS270
D1202	5339141	DIODE 1SS270
D1203	5339551	DIODE SS1J4
D1204	5339141	DIODE 1SS270
D1205	5328321	DIODE MA151K (MH)
D1206	5328321	DIODE MA151K (MH)
D1403	5328321	DIODE MA151K (MH)
D1701	5339141	DIODE 1SS270
D1702	5339141	DIODE 1SS270
D1771	5339141	DIODE 1SS270
D1772	5339141	DIODE 1SS270
D1773	5339141	DIODE 1SS270
D1774	5339141	DIODE 1SS270
D1801	5328321	DIODE MA151K (MH)
D2101	5380933	LED GL451
D2506	5339141	DIODE 1SS270
D2551	5339141	DIODE 1SS270
D3201	5328303	DIODE MA152WK (MU)
D4551	5328321	DIODE MA151K (MH)
D4552	5339141	DIODE 1SS270
D4553	5339141	DIODE 1SS270
D4554	5339141	DIODE 1SS270
D4555	5339141	DIODE 1SS270
D471	5339141	DIODE 1SS270
D473	5328321	DIODE MA151K (MH)
D474LR	5339141	DIODE 1SS270
D475	5339141	DIODE 1SS270
D476LR	5339141	DIODE 1SS270
D477	5339141	DIODE 1SS270
D478	5339141	DIODE 1SS270
D501	5328321	DIODE MA151K (MH)
D601	5339141	DIODE 1SS270
D602	5339141	DIODE 1SS270
D603	5339141	DIODE 1SS270
D701	5339141	DIODE 1SS270
D706	5339141	DIODE 1SS270
D709	5339141	DIODE 1SS270
D716	5339141	DIODE 1SS270
D717	5339141	DIODE 1SS270
D718	5339141	DIODE 1SS270
D720	5339551	DIODE SS1J4
D901	5339141	DIODE 1SS270
D903	5339551	DIODE SS1J4
D904	5339551	DIODE SS1J4
D905	5339141	DIODE 1SS270
D906	5339141	DIODE 1SS270
IC0201	1374132	MODULE HT7405A
IC0203	1346881	IC M52364P
IC1401	1366721	IC LC74760M8793
IC1801	1365802	IC CF70091A
IC1802	1343511	IC TDA1543
IC1803	5364761	IC BA4560
IC1804	1365812	IC BA3129F
IC1806	1388951	IC AFS816F
IC1851	1346171	IC TDA8417
IC1852	1346191	IC TDA9821
IC2101	5327521	PHOTO TRANSISTOR SPI-315-C
IC2102	5327521	PHOTO TRANSISTOR SPI-315-C
IC2202	1350042	IC HA118070FP

SYMBOL-NO	P-NO	DESCRIPTION
IC2301	5366642	IC XRA7025L
IC2501	1341691	IC NJM2234S
IC3201	1345891	IC NJM2502L
IC401	5300641	IC BA7755
IC4551	1361921	IC BA7630S
IC501	1365754	IC AN3961NFBPAA
IC5501	1365812	IC BA3129F
IC5502	1365812	IC BA3129F
IC601	1366861	IC HD49781F
IC602	5350601	IC NJM4558D
IC701	1349041	IC UPD16312GB-3B4
IC901	1396061	IC UPD78056YGC-011-3B9
IC902	1361212	IC X24C02P
IC903	5300795	IC XRA6209U4
IC904	1340002	IC S-8053ALB
IC905	1354712	IC BU2042F
IR701	1388711	PWB ASSY SBX1644
Q0201	5328796	TRANSISTOR XDC144EK
Q0202	5328796	TRANSISTOR XDC144EK
Q0203	5328796	TRANSISTOR XDC144EK
Q0204	5328971	TRANSISTOR 2SC2412KBRST
Q0206	5328796	TRANSISTOR XDC144EK
Q0207	5328331	TRANSISTOR 2SB709AR
Q0208	5328971	TRANSISTOR 2SC2412KBRST
Q0209	5328796	TRANSISTOR XDC144EK
Q0210	5328971	TRANSISTOR 2SC2412KBRST
Q0211	5328796	TRANSISTOR XDC144EK
Q0212	5328796	TRANSISTOR XDC144EK
Q0213	5328796	TRANSISTOR XDC144EK
Q0214	5328796	TRANSISTOR XDC144EK
Q0217	5328796	TRANSISTOR XDC144EK
Q0218	5328971	TRANSISTOR 2SC2412KBRST
Q0219	5328796	TRANSISTOR XDC144EK
Q0221	5328796	TRANSISTOR XDC144EK
Q0224	5328971	TRANSISTOR 2SC2412KBRST
Q0225	5328971	TRANSISTOR 2SC2412KBRST
Q0226	5328797	TRANSISTOR XDA144EK
Q0227	5328797	TRANSISTOR XDA144EK
Q0228	5328971	TRANSISTOR 2SC2412KBRST
Q0229	5328971	TRANSISTOR 2SC2412KBRST
Q0232	5328971	TRANSISTOR 2SC2412KBRST
Q0234	5328971	TRANSISTOR 2SC2412KBRST
Q0244	5328796	TRANSISTOR XDC144EK
Q1251	5328796	TRANSISTOR XDC144EK
Q1252	5328962	TRANSISTOR 2SA1037K
Q1253	5328796	TRANSISTOR XDC144EK
Q1254	1323081	TRANSISTOR 2SA1036K
Q1255	5328962	TRANSISTOR 2SA1037K
Q1401	5328962	TRANSISTOR 2SA1037K
Q1402	5328971	TRANSISTOR 2SC2412KBRST
Q1403	5328971	TRANSISTOR 2SC2412KBRST
Q1804	5328972	TRANSISTOR 2SC2412K-BRT
Q1805	5328972	TRANSISTOR 2SC2412K-BRT
Q1806	5328972	TRANSISTOR 2SC2412K-BRT
Q1807	5328972	TRANSISTOR 2SC2412K-BRT
Q1808	5328962	TRANSISTOR 2SA1037K
Q1871	5328796	TRANSISTOR XDC144EK
Q2101	5324661	PHOTO TRANSISTOR PT-483F1H
Q2102	5324661	PHOTO TRANSISTOR PT-483F1H
Q2501	5328962	TRANSISTOR 2SA1037K
Q2502	5328962	TRANSISTOR 2SA1037K
Q2503	5327091	TRANSISTER 2SD1504E
Q3201	5328796	TRANSISTOR XDC144EK
Q3202	5328971	TRANSISTOR 2SC2412KBRST
Q3203	5328331	TRANSISTOR 2SB709AR

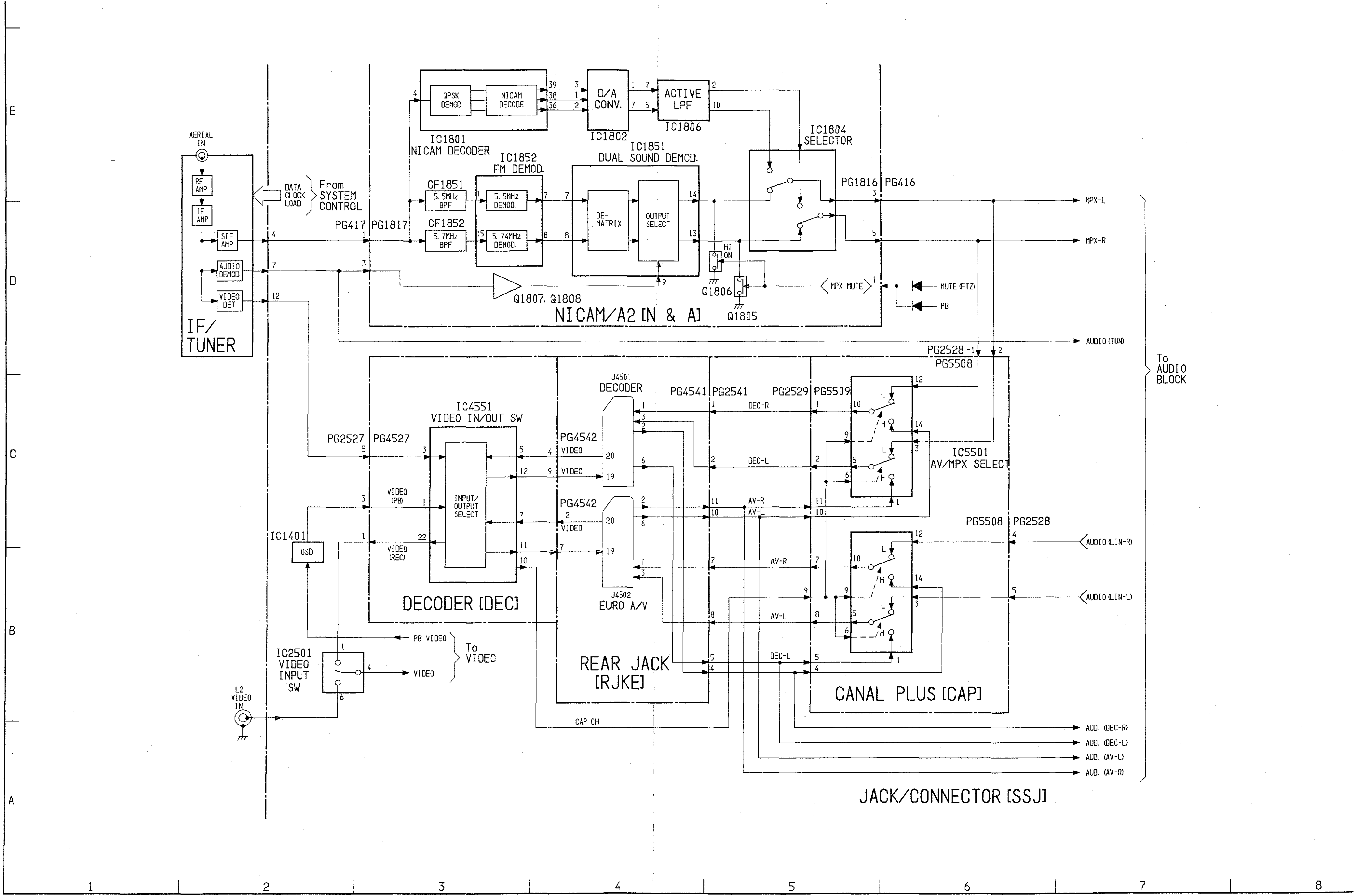
SYMBOL-NO	P-NO	DESCRIPTION
S720	5634884	SWITCH
S723	5634884	SWITCH
S724	5634884	SWITCH
S727	5634884	SWITCH
S729	5634884	SWITCH
SW701	5621782	SWITCH
		SWITCHING REGULATOR(SWR)
C 1	0268741	POLYESTER FILM 0.1UF+-20% 250V
C 2	0268741	POLYESTER FILM 0.1UF+-20% 250V
C 4	0268532	POLYESTER FILM 0.047UF+-10% 250V
C 5	0235378	CERAMIC DISK 82PF+-5% 1KV
C 8	0880009	POLYESTER FILM 0.01UF+-10% 50V
C 9	0890083	CERAMIC DISC 470PF+-10% 50V
C10	0209774	CERAMIC DISC 0.033UF+-20% 50V
C14	0204317	POLYESTER FILM 680PF+-5% 50V
C19	0209641	CERAMIC DISC 10000PF+-10% 16V
C21	0890043	CERAMIC DISC 0.01UF+-20% 16V
C22	0204316	POLYESTER FILM 1000PF+-5% 50V
C24	0890043	CERAMIC DISC 0.01UF+-20% 16V
C25	0890043	CERAMIC DISC 0.01UF+-20% 16V
C27	0249678	CERAMIC DISC 220PF 400V
C28	0249678	CERAMIC DISC 220PF 400V
C29	0249678	CERAMIC DISC 220PF 400V
C38	0890043	CERAMIC DISC 0.01UF+-20% 16V
C39	0890087	CERAMIC 1000PF+-10% 50V
C41	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C42	0890043	CERAMIC DISC 0.01UF+-20% 16V
C43	0880007	POLYESTER FILM 4700PF+-10% 50V
C44	0209774	CERAMIC DISC 0.033UF+-20% 50V
R 2	0101963	CARBON FILM 330KOHM+-5% 1/4W
R 3	0101958	CARBON FILM 120KOHM+-5% 1/8W
R 4	0101958	CARBON FILM 120KOHM+-5% 1/8W
R 5	0116057	METAL OXIDE 47KOHM+-5% 3W
R 6	0116064	METAL OXIDE FILM 270 OHM+-5% 1W
R 7	0101931	CARBON FILM 680OHM+-5% 1/8W
R 8	0700077	CARBON FILM 560KOHM+-5% 1/8W
R 9	0171287	METAL FILM 0.24OHM+-5% 1W
R10	0700029	CARBON FILM 150 OHM+-5% 1/8W
R11	0700054	CARBON FILM 10KOHM+-5% 1/8W
R12	0700034	CARBON FILM 330OHM+-5% 1/8W
R13	0700024	CARBON FILM 56 OHM+-5% 1/8W
R14	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R15	0700038	CARBON FILM 680OHM+-5% 1/8W
R16	0101756	CHIP RESISTOR 1KOHM+-1% 1/8W
R17	0101763	RESISTOR 4.7KOHM+-1% 1/8W
R18	0101763	RESISTOR 4.7KOHM+-1% 1/8W
R20	0700036	CARBON FILM 470 OHM+-5% 1/8W
R21	0700067	CARBON FILM 100KOHM+-5% 1/8W
R22	0700027	CARBON FILM 100 OHM+-5% 1/8W
R23	0101945	CARBON FILM 10KOHM+-5% 1/8W
R24	0700027	CARBON FILM 100 OHM+-5% 1/8W
R25	0101945	CARBON FILM 10KOHM+-5% 1/8W
R27	0700063	CARBON FILM 47KOHM+-5% 1/8W
R30	0101801	CARBON FILM 2.2 OHM+-5% 1/4W
R31	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R32	0116057	METAL OXIDE 47KOHM+-5% 3W
⚠R36	0101717	RESISTOR 68 OHM+-5% 1/6W
R37	0170641	METAL FILM 1MOHM+-5% 1/2W
⚠D 1	5336552	DIODE S1WBA60
D 2	5336323	DIODE EG01C-P
D 3	5339131	DIODE 1SS254
D 4	5339131	DIODE 1SS254
D 8	5336402	DIODE RU4YX-SF
D 9	5336811	DIODE MA2180A
D10	5339591	DIODE D1NK40H
D11	5339431	DIODE 1SS244
D12	1331361	DIODE RK34
D13	5339591	DIODE D1NK40H
D14	5339296	DIODE HZS5B2
D15	5339484	DIODE HZS12B3T
D16	5339268	DIODE HZS11B2
⚠IC 1	1322592	TRANSISTOR PC111L-B
Q 1	5327541	TRANSISTOR 2SK1198
Q 2	1320003	TRANSISTOR 2SA854(S)
Q 3	1321341	TRANISITOR 2SD1765
Q 4	1321341	TRANISITOR 2SD1765
Q 5	1321341	TRANISITOR 2SD1765
Q 7	5327202	TRANSISTOR 2SC1741SR
⚠QF 1	5721941	IC PROTECTOR
⚠QF 2	5721945	IC PROTECTOR, ICP-N38
⚠QF 4	5721945	IC PROTECTOR, ICP-N38
⚠L 1	5220242	COIL
⚠L 2	5220242	COIL
L 3	5272212	CORE
L 4	5152733	CHOKE COIL 10UH+-10%
L 5	5152733	CHOKE COIL 10UH+-10%
L 7	5272212	CORE
L 8	5272212	CORE
		PRE AMP(PRE)
C01	0800186	ELECTROLYTIC 47UF 16V
C02	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C04	0800173	ELECTROLYTIC 0.3UF 50V
C05	0890043	CERAMIC DISC 0.01UF+-20% 16V
C06	0890036	CERAMIC DISC 1500PF+-20% 16V
C07	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C08	0890014	CERAMIC DISC 27PF+-50% 50V
C09	0890043	CERAMIC DISC 0.01UF+-20% 16V
C10	0890016	CERAMIC DISC 39PF+-50% 50V
C11	0800185	ELECTROLYTIC 47UF 6.3V
C12	0890029	CERAMIC DISC 390PF+-10% 50V
C13	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C14	0800185	ELECTROLYTIC 47UF 6.3V
C15	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C16	0800185	ELECTROLYTIC 47UF 6.3V
C17	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C18	0890014	CERAMIC DISC 27PF+-50% 50V
C19	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C20	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C21	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C22	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C23	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C24	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C25	0890014	CERAMIC DISC 27PF+-50% 50V
C26	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C27	0890043	CERAMIC DISC 0.01UF+-20% 16V
C28	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C29	0800185	ELECTROLYTIC 47UF 6.3V
C30	0890013	CERAMIC DISC 22PF+-5% 50V
C31	0800173	ELECTROLYTIC 0.33UF 50V
C32	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C33	0890022	CERAMIC DISC 100PF+-10% 50V
C34	0800175	ELECTROLYTIC 1.0UF 50V
C35	0890043	CERAMIC DISC 0.01UF+-20% 16V
C36	0890013	CERAMIC DISC 22PF+-5% 50V
C37	0890013	CERAMIC DISC 22PF+-5% 50V
C38	0890043	CERAMIC DISC 0.01UF+-20% 16V

SYMBOL-NO	P-NO	DESCRIPTION
C39	0800175	ELECTROLYTIC 1.0UF 50V
C40	0800173	ELECTROLYTIC 0.33UF 50V
C41	0890043	CERAMIC DISC 0.01UF+-20% 16V
C42	0890043	CERAMIC DISC 0.01UF+-20% 16V
C43	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C44	0800185	ELECTROLYTIC 47UF 6.3V
C45	0890043	CERAMIC DISC 0.01UF+-20% 16V
C46	0890043	CERAMIC DISC 0.01UF+-20% 16V
C47	0890027	CERAMIC DISC 270PF+-10% 50V
C48	0890018	CERAMIC DISC 56PF+-50% 50V
C49	0890043	CERAMIC DISC 0.01UF+-20% 16V
C50	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C51	0890043	CERAMIC DISC 0.01UF+-20% 16V
C52	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C53	0800173	ELECTROLYTIC 0.33UF 50V
C59	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C60	0890014	CERAMIC DISC 27PF+-50% 50V
C61	0890014	CERAMIC DISC 27PF+-50% 50V
R01	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R02	0700037	CARBON FILM 560OHM+-5% 1/8W
R03	0700032	CARBON FILM 220 OHM+-5% 1/8W
R04	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R05	0700038	CARBON FILM 680OHM+-5% 1/8W
R06	0700027	CARBON FILM 100 OHM+-5% 1/8W
R07	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R09	0700032	CARBON FILM 220 OHM+-5% 1/8W
R10	0700027	CARBON FILM 100 OHM+-5% 1/8W
R11	0700036	CARBON FILM 470 OHM+-5% 1/8W
R12	0700023	CARBON FILM 47OHM+-5% 1/8W
R13	0700027	CARBON FILM 100 OHM+-5% 1/8W
R14	0700027	CARBON FILM 100 OHM+-5% 1/8W
R15	0700027	CARBON FILM 100 OHM+-5% 1/8W
R16	0700023	CARBON FILM 47OHM+-5% 1/8W
R17	0700027	CARBON FILM 100 OHM+-5% 1/8W
R18	0700036	CARBON FILM 470 OHM+-5% 1/8W
R19	0700027	CARBON FILM 100 OHM+-5% 1/8W
R20	0700029	CARBON FILM 150 OHM+-5% 1/8W
R21	0700029	CARBON FILM 150 OHM+-5% 1/8W
R22	0700054	CARBON FILM 10KOHM+-5% 1/8W
R23	0700054	CARBON FILM 10KOHM+-5% 1/8W
R24	0700038	CARBON FILM 680OHM+-5% 1/8W
R25	0700051	CARBON FILM 5.6KOHM+-5% 1/8W
R26	0700061	CARBON FILM 33KOHM+-5% 1/8W
R27	0700058	CARBON FILM 22KOHM+-5% 1/8W
R28	0700044	CARBON FILM 1.8KOHM+-5% 1/8W
R29	0700027	CARBON FILM 100 OHM+-5% 1/8W
R31	0700054	CARBON FILM 10KOHM+-5% 1/8W
R32	0700014	CARBON FILM 10OHM+-5% 1/8W
R33	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R34	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R35	0700054	CARBON FILM 10KOHM+-5% 1/8W
R36	0700054	CARBON FILM 10KOHM+-5% 1/8W
R37	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R38	0700047	CARBON FILM 3.3KOHM+-5% 1/8W
R39	0700061	CARBON FILM 33KOHM+-5% 1/8W
R40	0700058	CARBON FILM 22KOHM+-5% 1/8W
R41	0700067	CARBON FILM 100KOHM+-5% 1/8W
R42	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R43	0700053	CARBON FILM 8.2KOHM+-5% 1/8W
R44	0700054	CARBON FILM 10KOHM+-5% 1/8W
R45	0700039	CARBON FILM 820OHM+-5% 1/8W
R46	0700054	CARBON FILM 10KOHM+-5% 1/8W
R47	0700035	CARBON FILM 390OHM+-5% 1/8W
R48	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R49	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R50	0700063	CARBON FILM 47KOHM+-5% 1/8W
R51	0700054	CARBON FILM 10KOHM+-5% 1/8W
R52	0700061	CARBON FILM 33KOHM+-5% 1/8W
R53	0700063	CARBON FILM 47KOHM+-5% 1/8W
R62	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R63	0700042	CARBON FILM 1.2KOHM+-5% 1/8W
R64	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
D01	5339131	DIODE 1SS254
D02	5339131	DIODE 1SS254
IC01	1362321	IC HA118162NT
IC02	1361752	IC XRA7740S
IC03	1361731	IC BA7047S
Q01	5327063	TRANSISTOR 2SC1740S
Q03	5327063	TRANSISTOR 2SC1740S
Q04	5327063	TRANSISTOR 2SC1740S
Q05	5327063	TRANSISTOR 2SC1740S
Q06	5327075	TRANSISTOR XDC144ES
Q07	5327075	TRANSISTOR XDC144ES
Q13	5327075	TRANSISTOR XDC144ES
L01	0770057	CHOKE COIL 100UH+-5%
L02	5159149	CHOKE COIL 47UH
L03	5159146	CHOKE COIL 27UH
L04	0770057	CHOKE COIL 100UH+-5%
L05	0770057	CHOKE COIL 100UH+-5%
L06	0770057	CHOKE COIL 100UH+-5%
L07	5159154	CHOKE COIL 100UH
L08	5159154	CHOKE COIL 100UH
L09	0770057	CHOKE COIL 100UH+-5%
L10	5159148	CHOKE COIL 39UH
L11	0770057	CHOKE COIL 100UH+-5%
L12	5159158	CHOKE COIL 220UH
L15	5159147	CHOKE COIL 33UH
L16	5159147	CHOKE COIL 33UH

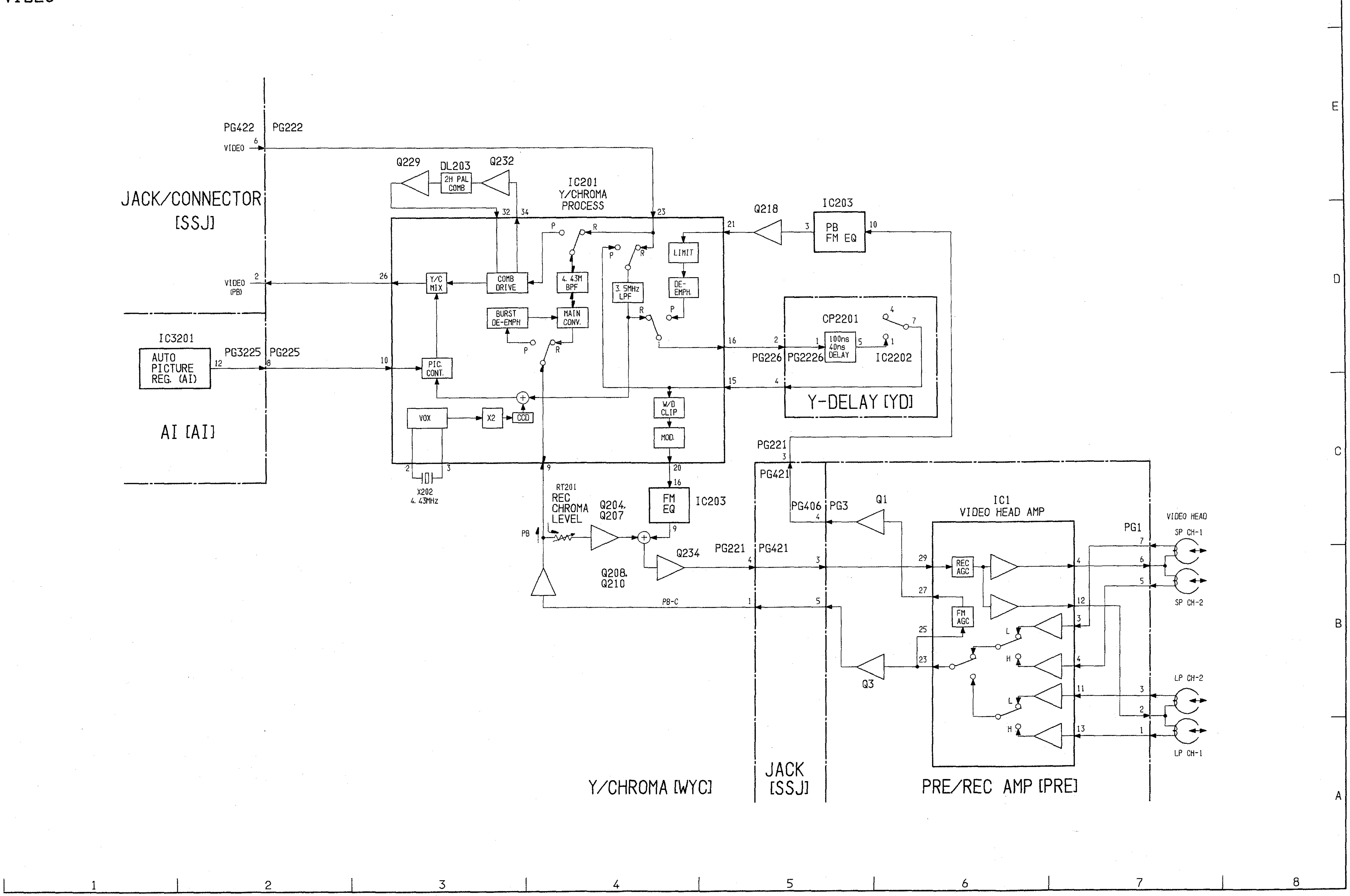
CHAPTER 8
1. BLOCK DIAGRAMS
OVERALL


IC201
Y/CHROMA PROCESS
FM DEMOD.
FREQ UP CONV.
FM MOD.
FREQ DOWN CONV.
IC1401
OSD
RF CONV.
EURO A/V
VIDEO OUT
IC1P
VIDEO HEAD AMP
PB FM
REC FM
VIDEO HEAD
IC901
MAIN µP
IC903
MOTOR DRIVE
LOADING MOTOR
M
MECHA. STATE SWITCH
TAPE END SENSOR
REEL SENSOR
CST UP/DOWN SWITCH
TAB SWITCH
END LED
IC4551
VIDEO INPUT SELECT
L2 VIDEO IN
EURO A/V
VIDEO IN
PAY TV DECODER
IC601
SERVO CONTROL
SPEED
PHASE
CYL. CONTROL
CAPST. CONTROL
IC01
MOTOR DRIVER
CYLINDER MOTOR
IC01M
MOTOR DRIVER
CAPSTAN MOTOR
44
45
DATA (CONTROL)
49
50
IF/TUNER UNIT
VIDEO
12
13 ~ 15
DATA (CONTROL)
30 ~ 32
NICAM/A2 BLOCK
NICAM PROCESS
A2 PROCESS
DATA (CONTROL)
17
18
S. IF
4
AUDIO
7
PAY TV DECODER
INPUT SELECT
L-CH FM MOD.
R-CH FM MOD.
IC2P
AUDIO HEAD AMP
FM AUDIO HEAD
AUDIO IN L R
EURO A/V
AUDIO L. R
RF CONV.
OUTPUT SELECT
L-CH FM DEMOD.
R-CH FM DEMOD.
REC AMP
LINEAR AUDIO HEAD
AUDIO L. R
EURO A/V
20 ~ 22
DATA (CONTROL)
6
12
13
IC501
AUDIO PROCESS
5
8
9
10
DATA
IC701
DISPLAY DRIVER
GRID
SEGMENT
DG701
MULTI. DISPLAY
SHUTTLE SW
1
2
3
4
5
6
7
8
A
B
C
D
E

JACK/CONNECTOR

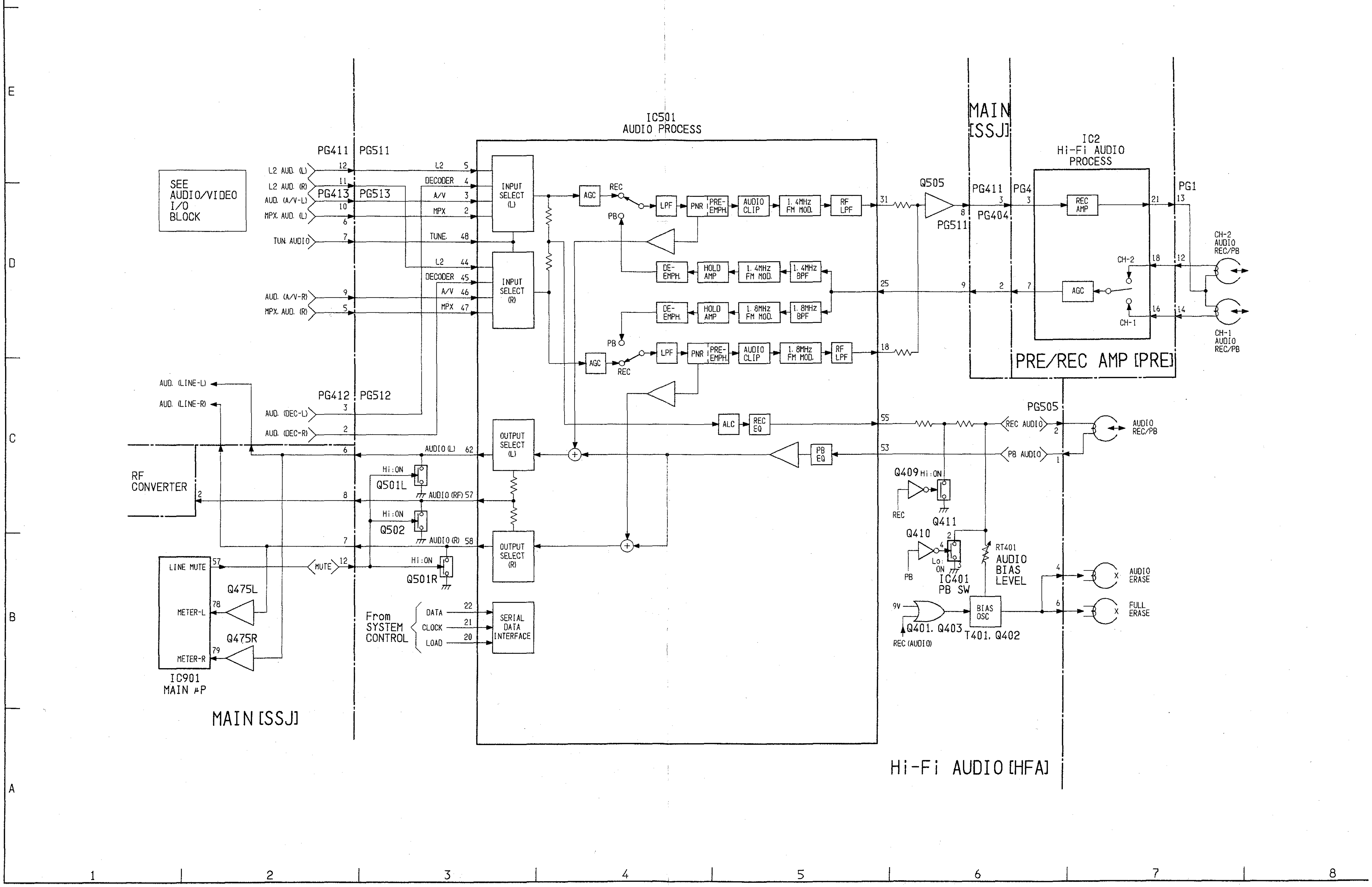

E
D
C
B
A
1
2
3
4
5
6
7
8
AERIAL IN
RF AMP
IF AMP
SIF AMP
AUDIO DEMOD
VIDEO DET
IF/ TUNER
DATA
CLOCK
LOAD
From SYSTEM CONTROL
PG417
PG1817
QPSK DEMOD
NICAM DECODE
IC1801 NICAM DECODER
D/A CONV.
IC1802
ACTIVE LPF
IC1806
CF1851
5.5MHz BPF
CF1852
5.7MHz BPF
IC1852 FM DEMOD.
5.5MHz DEMOD.
5.74MHz DEMOD.
IC1851 DUAL SOUND DEMOD.
DE-MATRIX
OUTPUT SELECT
IC1804 SELECTOR
PG1816
PG416
Hi: ON
Q1806
Q1805
Q1807, Q1808
MPX MUTE
NICAM/A2 [N & A]
MPX-L
MPX-R
MUTE (FTZ)
PB
AUDIO (TUN)
PG2528
PG5508
To AUDIO BLOCK
PG2527
PG4527
IC4551 VIDEO IN/OUT SW
INPUT/ OUTPUT SELECT
VIDEO (PB)
VIDEO (REC)
IC1401
OSD
DECODER [DEC]
PG4542
VIDEO
J4501 DECODER
J4502 EURO A/V
REAR JACK [RJKE]
PG4541
PG2541
PG2529
PG5509
DEC-R
DEC-L
AV-R
AV-L
IC5501 AV/MPX SELECT
L
H
PG5508
PG2528
AUDIO (LIN-R)
AUDIO (LIN-L)
CANAL PLUS [CAP]
CAP CH
PB VIDEO
To VIDEO
VIDEO
IC2501 VIDEO INPUT SW
L2 VIDEO IN
AUD. (DEC-R)
AUD. (DEC-L)
AUD. (AV-L)
AUD. (AV-R)
JACK/CONNECTOR [SSJ]

VIDEO

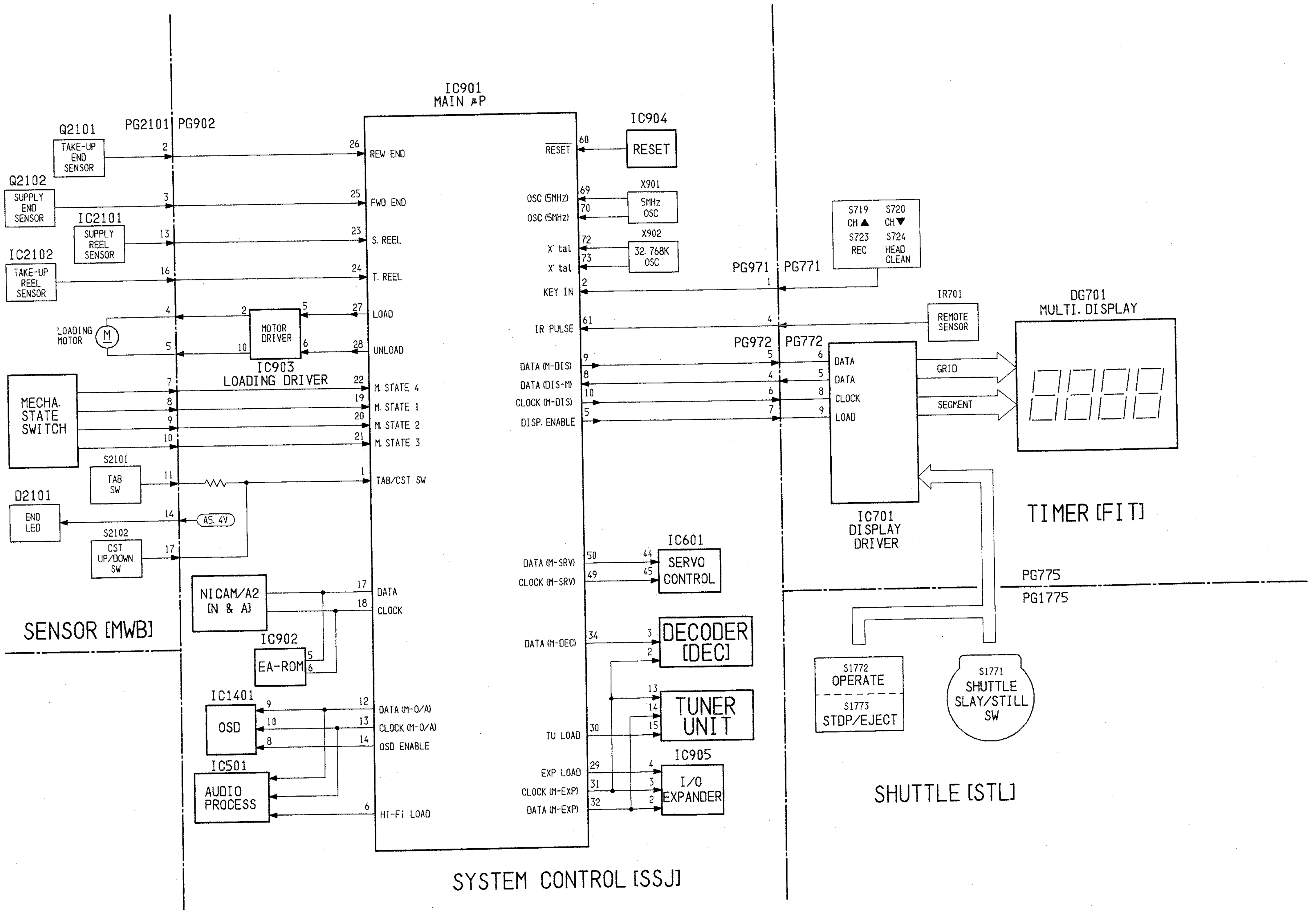


JACK/CONNECTOR [SSJ]
PG422
PG222
VIDEO
6
2
VIDEO (PB)
AI [AI]
IC3201
AUTO PICTURE REG. (AI)
12
PG3225
PG225
8
Q229
DL203
2H PAL COMB
Q232
IC201
Y/CHROMA PROCESS
32
34
23
26
10
21
16
15
9
20
2
3
Y/C MIX
COMB DRIVE
4. 43M BPF
BURST DE-EMPH
MAIN CONV.
PIC. CONT.
3. 5MHz LPF
LIMIT
DE-EMPH.
VOX
X2
CCD
W/D CLIP
MOD.
P
R
X202
4. 43MHz
RT201
REC CHROMA LEVEL
PB
Q204, Q207
Q208, Q210
Q234
IC203
FM EQ
16
9
PB-C
Q218
IC203
PB FM EQ
3
10
CP2201
100ns 40ns DELAY
IC2202
PG226
PG2226
4
7
1
5
Y-DELAY [YD]
Y/CHROMA [WYC]
PG221
PG421
PG406
PG3
JACK [SSJ]
Q1
Q3
IC1
VIDEO HEAD AMP
REC AGC
FM AGC
29
27
25
23
12
11
13
L
H
PG1
VIDEO HEAD
SP CH-1
SP CH-2
LP CH-2
LP CH-1
PRE/REC AMP [PRE]
E
D
C
B
A
1
2
3
4
5
6
7
8

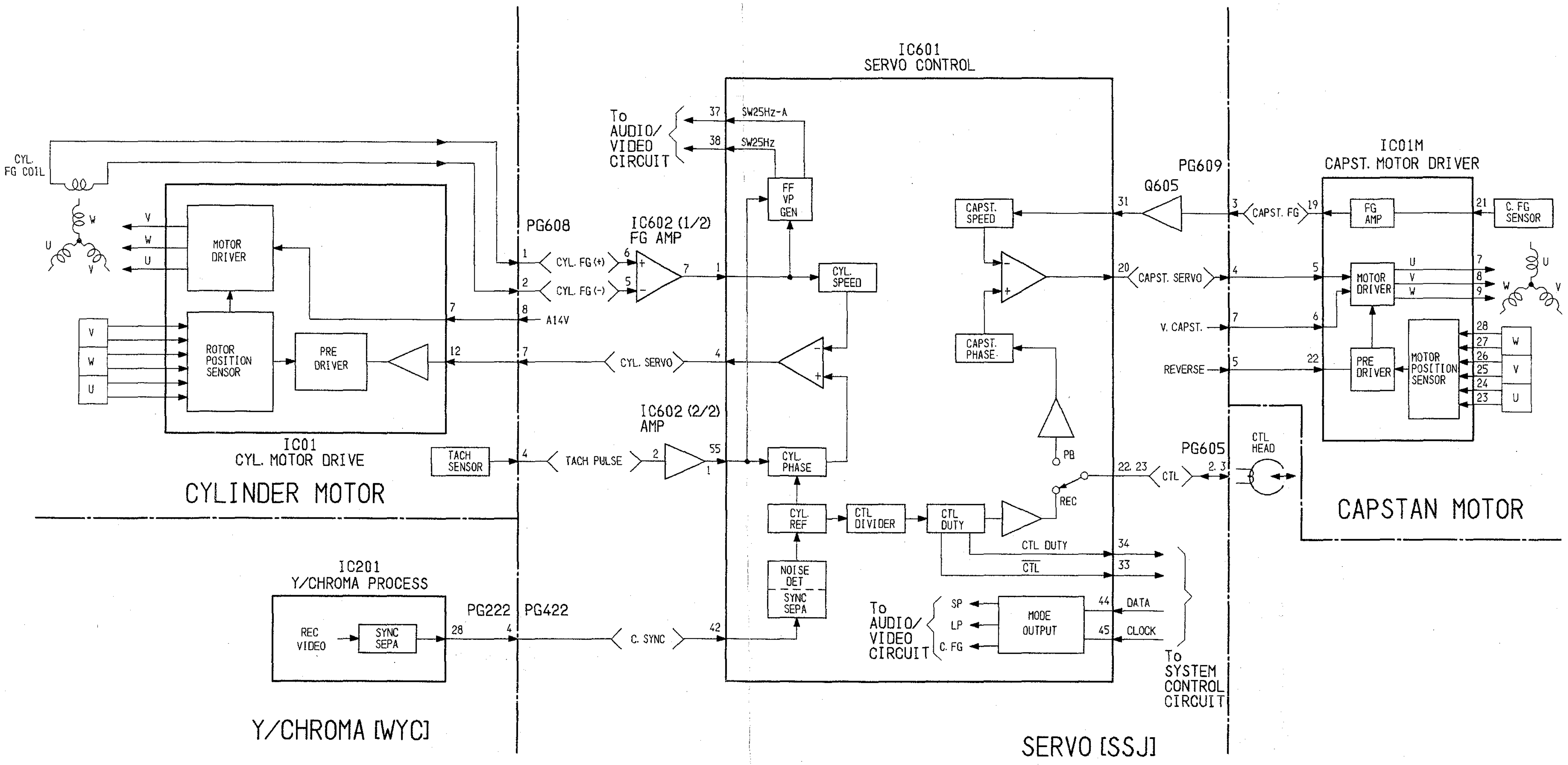
AUDIO


IC501
AUDIO PROCESS
SEE AUDIO/VIDEO I/O BLOCK
PG411
PG511
PG413
PG513
PG412
PG512
L2 AUD. (L)
L2 AUD. (R)
AUD. (A/V-L)
MPX. AUD. (L)
TUN. AUDIO
AUD. (A/V-R)
MPX. AUD. (R)
AUD. (LINE-L)
AUD. (LINE-R)
AUD. (DEC-L)
AUD. (DEC-R)
L2
DECODER
A/V
MPX
TUNE.
INPUT SELECT (L)
INPUT SELECT (R)
AGC
REC
PB
LPF
PNR
PRE-EMPH.
AUDIO CLIP
1.4MHz FM MOD.
1.8MHz FM MOD.
RF LPF
DE-EMPH.
HOLD AMP
1.4MHz FM MOD.
1.4MHz BPF
1.8MHz FM MOD.
1.8MHz BPF
ALC
REC EQ
PB EQ
OUTPUT SELECT (L)
OUTPUT SELECT (R)
AUDIO (L) 62
AUDIO (RF) 57
AUDIO (R) 58
Hi:ON
Q501L
Q502
Q501R
MUTE
RF CONVERTER
LINE MUTE
METER-L
METER-R
Q475L
Q475R
IC901
MAIN µP
MAIN [SSJ]
From SYSTEM CONTROL
DATA
CLOCK
LOAD
SERIAL DATA INTERFACE
Q505
PG511
MAIN [SSJ]
PG411
PG4
PG404
IC2
Hi-Fi AUDIO PROCESS
REC AMP
AGC
CH-2
CH-1
PG1
CH-2 AUDIO REC/PB
CH-1 AUDIO REC/PB
PRE/REC AMP [PRE]
PG505
REC AUDIO
PB AUDIO
AUDIO REC/PB
Q409
Q411
Q410
REC
PB
Lo: ON
IC401
PB SW
RT401
AUDIO BIAS LEVEL
9V
Q401, Q403
REC (AUDIO)
BIAS OSC
T401, Q402
AUDIO ERASE
FULL ERASE
Hi-Fi AUDIO [HFA]
A
B
C
D
E
1
2
3
4
5
6
7
8

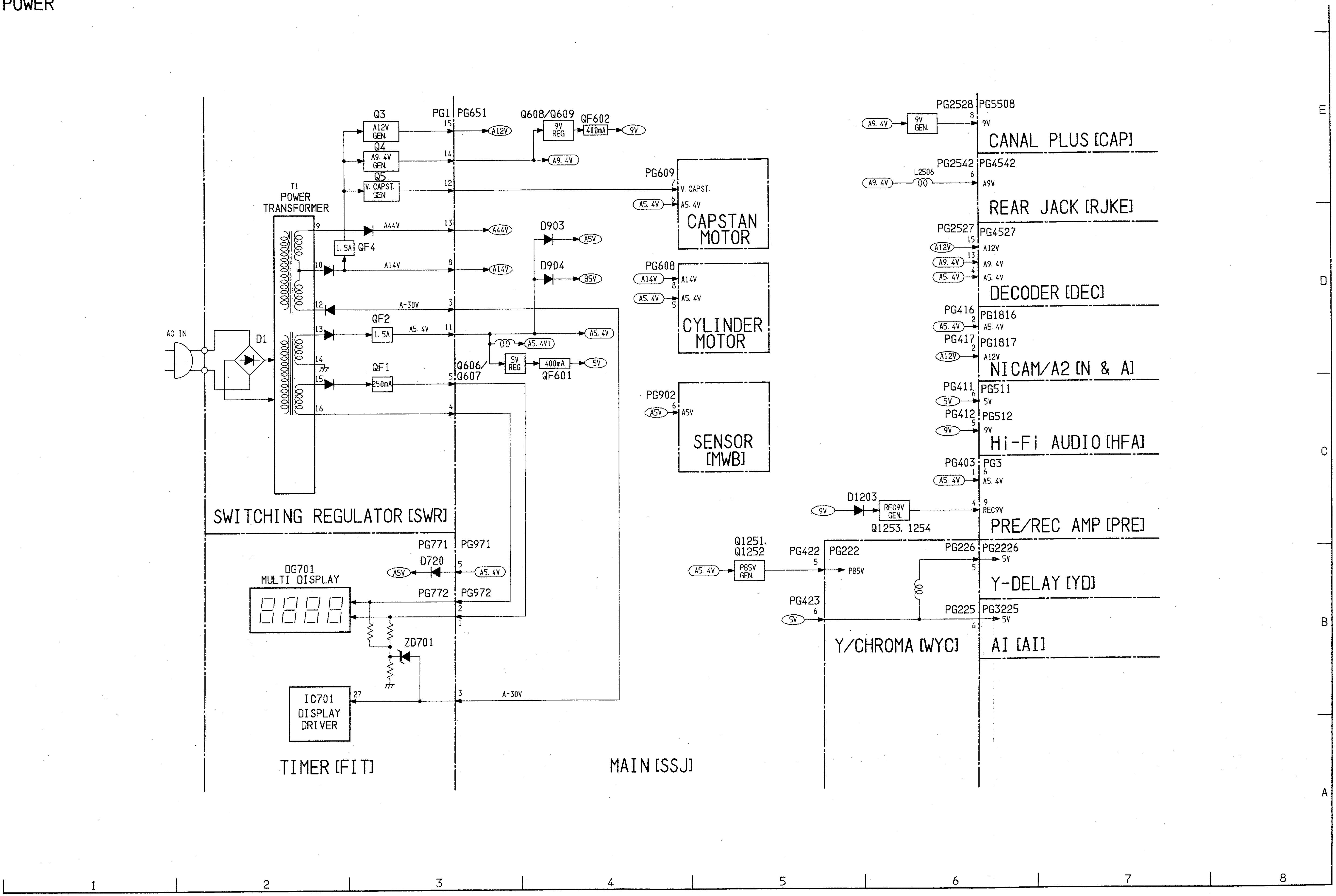
SYSTEM CONTROL/TIMER


IC901
MAIN µP
REW END
FWD END
S. REEL
T. REEL
LOAD
UNLOAD
M. STATE 4
M. STATE 1
M. STATE 2
M. STATE 3
TAB/CST SW
DATA
CLOCK
DATA (M-O/A)
CLOCK (M-O/A)
OSD ENABLE
Hi-Fi LOAD
RESET
OSC (5MHz)
OSC (5MHz)
X' tal
X' tal
KEY IN
IR PULSE
DATA (M-DIS)
DATA (DIS-M)
CLOCK (M-DIS)
DISP. ENABLE
DATA (M-SRV)
CLOCK (M-SRV)
DATA (M-DEC)
TU LOAD
EXP LOAD
CLOCK (M-EXP)
DATA (M-EXP)
Q2101
TAKE-UP END SENSOR
Q2102
SUPPLY END SENSOR
IC2101
SUPPLY REEL SENSOR
IC2102
TAKE-UP REEL SENSOR
LOADING MOTOR
M
MOTOR DRIVER
IC903
LOADING DRIVER
MECHA. STATE SWITCH
S2101
TAB SW
D2101
END LED
A5. 4V
S2102
CST UP/DOWN SW
PG2101
PG902
SENSOR [MWB]
NICAM/A2 [N & A]
IC902
EA-ROM
IC1401
OSD
IC501
AUDIO PROCESS
IC904
RESET
X901
5MHz OSC
X902
32. 768K OSC
IC601
SERVO CONTROL
DECODER [DEC]
TUNER UNIT
IC905
I/O EXPANDER
SYSTEM CONTROL [SSJ]
PG971
PG771
PG972
PG772
S719 CH▲
S720 CH▼
S723 REC
S724 HEAD CLEAN
IR701
REMOTE SENSOR
DG701
MULTI. DISPLAY
DATA
DATA
CLOCK
LOAD
GRID
SEGMENT
IC701
DISPLAY DRIVER
TIMER [FIT]
PG775
PG1775
S1772
OPERATE
S1773
STOP/EJECT
S1771
SHUTTLE SLAY/STILL SW
SHUTTLE [STL]
1
2
3
4
5
6
7
8
A
B
C
D
E

SERVO


CYL. FG COIL
V
W
U
MOTOR DRIVER
ROTOR POSITION SENSOR
PRE DRIVER
IC01
CYL. MOTOR DRIVE
TACH SENSOR
CYLINDER MOTOR
PG608
CYL. FG (+)
CYL. FG (-)
A14V
CYL. SERVO
TACH PULSE
IC602 (1/2)
FG AMP
IC602 (2/2)
AMP
IC201
Y/CHROMA PROCESS
REC VIDEO
SYNC SEPA
PG222
PG422
C. SYNC
Y/CHROMA [WYC]
To AUDIO/ VIDEO CIRCUIT
IC601
SERVO CONTROL
SW25Hz-A
SW25Hz
FF VP GEN
CYL. SPEED
CYL. PHASE
CYL. REF
CTL DIVIDER
CTL DUTY
NOISE DET
SYNC SEPA
CAPST. SPEED
CAPST. PHASE
PB
REC
CTL DUTY
CTL
To AUDIO/ VIDEO CIRCUIT
SP
LP
C. FG
MODE OUTPUT
DATA
CLOCK
To SYSTEM CONTROL CIRCUIT
SERVO [SSJ]
Q605
PG609
CAPST. FG
CAPST. SERVO
V. CAPST.
REVERSE
PG605
CTL
CTL HEAD
IC01M
CAPST. MOTOR DRIVER
FG AMP
C. FG SENSOR
MOTOR DRIVER
PRE DRIVER
MOTOR POSITION SENSOR
CAPSTAN MOTOR

POWER



Q3
A12V GEN.
Q4
A9. 4V GEN.
Q5
V. CAPST. GEN.
PG1
PG651
Q608/Q609
9V REG
QF602
400mA
A12V
9V
A9. 4V
T1
POWER TRANSFORMER
1. 5A
QF4
A44V
A14V
A-30V
QF2
1. 5A
A5. 4V
QF1
250mA
AC IN
D1
D903
A5V
D904
B5V
A5. 4V1
5V REG
400mA
QF601
5V
Q606/Q607
PG609
V. CAPST.
A5. 4V
CAPSTAN MOTOR
PG608
A14V
A5. 4V
CYLINDER MOTOR
PG902
A5V
SENSOR [MWB]
SWITCHING REGULATOR [SWR]
PG771
PG971
D720
A5V
A5. 4V
DG701
MULTI DISPLAY
PG772
PG972
ZD701
IC701
DISPLAY DRIVER
A-30V
TIMER [FIT]
MAIN [SSJ]
PG2528
PG5508
9V GEN.
9V
CANAL PLUS [CAP]
PG2542
PG4542
L2506
A9V
REAR JACK [RJKE]
PG2527
PG4527
A12V
A9. 4V
A5. 4V
DECODER [DEC]
PG416
PG1816
PG417
PG1817
NICAM/A2 [N & A]
PG411
PG511
5V
PG412
PG512
9V
Hi-Fi AUDIO [HFA]
PG403
PG3
D1203
REC9V GEN.
Q1253, 1254
REC9V
PRE/REC AMP [PRE]
Q1251, Q1252
PB5V GEN.
PG422
PG222
PB5V
PG226
PG2226
Y-DELAY [YD]
PG423
PG225
PG3225
Y/CHROMA [WYC]
AI [AI]
E
D
C
B
A
1
2
3
4
5
6
7
8

2. MICROPROCESSOR PIN FUNCTION TABLE

Table - MAIN μP (IC901) PIN FUNCTIONS

Pin No.	I/O	Active Level	Abbreviation	Function
1	I	A/D	TAB/CST.UP/DN	Detects whether or not the record prevention tab which is located on the cassette is removed with "Mi" and "Lo" levels. With no tab, recording is inhibited or cassette is ejected automatically when the timer recording is set. Detects the cassette holder state with "Hi" and "Lo" levels.
2	I	A/D	KEY IN	Receives one of 16 voltages corresponding to the pressed key on the front panel.
3	I	Hi/Lo	STEREO/$\overline{\text{BIL}}$	Inputs switching control signal. STEREO: Hi, BILINGUAL: Lo
4	I	-	AV$_{ss}$	Not connected.
5	0	Hi	DISP.ENABLE	Enable signal from M-μP to Display driver.
8	I	Pulse	DATA (DIS-M)	These are the data bus lines between the M-μP and Display driver. The data is sent each other synchronized with CLOCK signal.
9	0	Pulse	DATA (M-DIS.)	
10	0	Pulse	CLOCK (M-DIS.)	
6	0	Hi	Hi-Fi LOAD	Selects the data reception IC. A common data line is provided between the M-μP and each IC (AUDIO IC). When sending the data, the M-μP sets the chip select line to active level until the data transfer is completed.
7	I	-	AVREF	Connected to A5V.
75	I	-	AVREF	
11	I	Lo	HIFI IND (L)	During playback mode, H: fix the audio output mode to LINEAR, L: L/R output.
12	0	Pulse	DATA (M-O/A)	These are the common data bus liens between M-μP and each of 2 ICs (OSD and Hi-Fi AUDIO IC). The data is sent to the selected IC synchronized with clock signal after the reception IC is selected by chip select outputs at pins 6 and 14.
13	0	Pulse	CLOCK (M-O/A)	
14	0	Hi	OSD ENABLE	Enable signal from M-μP to OSD.
15	-	-	NC	
16	I	Hi	EDIT IN	Camera pause input "Hi": REC PAUSE mode.
17	0	Pulse	DATA	These are the data bus lines between the M-μP and EAROM/A2/VPS ICs. The data is communicated with these ICs synchronized with CLOCK signal.
18	0	Pulse	CLOCK	
19	I	Hi/LO	M.STATE 1	Detects mechanism state position to control the loading motor. Refer to the Block diagram for the truth table.
20	I	Hi/LO	M.STATE 2	
21	I	Hi/LO	M.STATE 3	
22	I	Hi/LO	M.STATE 4	
23	I	Pulse	S.REEL	Monitors the take-up reel frequency to detect whether or not the slack is rewound to the take-up or supply reel. S. REEL pulse is utilized for remaining time count with T. REEL pulse.
24	I	Pulse	T.REEL	
25	I	Lo	FWD END (L)	Releases the instrument from the commanded mode when "Lo" pulse is applied from the end sensor on the mechanism. Each sensor is responsible for monitoring the ends of tape. In addition both end sensors are also responsible for monitoring that no cassette is present.
26	I	Lo	REW END (R)	
27	0	Hi	LOAD	Controls the loading motor to place the mechanism state in mode corresponding to the commanded mode. Refer to the truth table in block diagram.
28	0	Hi	UNLOAD	
29	0	Hi	EXP LOAD	Selects the data reception IC. A common data line is provided between the M-μP and EXP/TUN. ICs. When sending the data, the μP sets the chip select line to active level until the data transfer is completed.
30	0	Hi	TU LOAD	
31	0	Pulse	CLOCK(M-EXP/TU)	These are the data bus lines between the M-μP and I/O EXPANDER/TUNER ICs. The data is communicated with these ICs synchronized with the CLOCK signal.
32	0	Pulse	DATA (M-EXP/TU)	
33	I	-	V$_{ss}$	Ground

Pin No.	I/O	Active Level	Abbreviation	Function
34	0	Pulse	DATA (M-DEC)	This is the data bus line between the M-μP and DEC-μP.
35	0	Hi	REVERSE	Sets the capstan rotation direction to reverse.
36	I	Hi	SEC/$\overline{\text{SEC}}$ DET	Mode selection input. SECAM: Hi.
37	I	Hi/Lo	ME/SEC DET	Mode selection input. MESECAM: Hi, SECAM: Lo.
38	I	Hi	TRACK.TRIG.	Inputs CTL LOCK DET. signal from SERVO IC for auto tracking function.
39	I	-	NO AUDIO	Not used.
40	0	Hi/Mid/Lo	TRN.SRH/FHS	Outputs the head switching signal. "Hi": TRANSIENT/SEARCH mode in SP/Hi-Fi MUTE during REC mode, "Mi": STILL/SLOW mode and LPx±2 speed mode, "Lo": etc. mode.
41	0	Hi/Mid/Lo	CAPST.CONT.	Selects the capstan motor operation mode. "Hi": REEL (voltage control) mode, "Mi (open)": SERVO control mode, "Lo": BRAKE mode.
42	0	Hi/Mid/Lo	CYL.ADJ. 1	Horizontal jitter correction signal in slow mode. 1:H/2:L in SP mode, 1:L/2:H in LP mode. Otherwise both are M (open).
43	0	Hi/Mid/Lo	CYL.ADJ. 2	
44	0	PWM	V.CAPST.	Applies this output to the capstan driver instead of the capstan servo output during slow/still and eject or cassette loading mode (softlanding).
45	0	-	EDIT OUT	Not used.
46	I	Lo	DUTY (L)	INDEX signal input. "Lo" when INDEX signal exists.
47	I	Pulse	C-SYNC	Composite SYNC signal input.
48	I	Pulse	CTL (EVENT)(L)	Inputs CTL pulses in order to process the slow mode.
65	I	Pulse	CTL (COUNT)(L)	Inputs CTL pulses in order to calculate the linear time counter.
49	0	Pulse	CLOCK (S-SRV)	These are the data bus lines between the M-μP and SERVO IC. The data is sent to the SERVO IC synchronized with CLOCK signal.
50	0	Pulse	DATA (S-SRV)	
51	0	Hi	POWER ON	Turns on 9V switch when the internal power switch is turned on. The internal power switch is turned on and off when the power switch is pressed, the cassette is inserted or manlfunctions occur.
52	0	Hi	SKW. CONT.	Not used.
53	0	Hi	REC MUTE	Inhibits supplying the video signal to the video head.
54	0	Hi	CURRENT UP	Outputs "Hi" to increase the video recording level for five seconds after assemble mode is released.
55	0	Hi	PB	Sets the video and audio circuits to play mode.
56	0	Hi	TRICK PLAY	Disables the H correlative noise canceller in the video circuit during search and still. Shifts the peaking frequency of the 4.6MHz peaking circuit in the video circuit to 4.2MHz.
57	0	Hi	LINE MUTE	Mute control of the audio output.
58	0	Hi	REC (AUDIO)	Sets the audio circuit to recording mode.
59	0	Hi	REC (VIDEO)	Controls the REC 9V regulator.
60	I	Lo	RESET (L)	Initializes the μP when the μP is powered.
61	I	Pulse	IR PULSE	Decodes the IR remote code from the IR transmitter and sets the VTR in the commanded mode.
62	I	Pulse	V.SYNC	Vertical SYNC signal input.
63	I	Pulse	CHROMA25Hz	Chrominance 25Hz signal input.
64	I	Pulse	SW25Hz	Monitors the frequency of SW25Hz to detect that the cylinder motor rotates correctly during record and play. The SW25Hz signal is also used to control supplying the video signals to the heads.
66	I	Pulse	CFG	Divided CFG signal. Monitors whether or not the slack is rewound to the supply reel disk during eject. The CFG pulses are also utilized as clock signal to measure the amount of the backspace during record-pause.

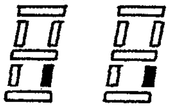
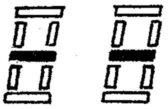
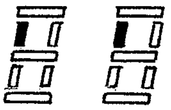
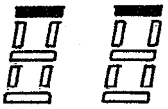
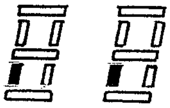
Pin No.	I/O	Active Level	Abbreviation	Function
67	I	Pulse	POWER STOP (L)	AC power frequency signal from the power supply circuit and utilized as a clock pulse for time count and is also used to detect power failure.
68 74	I I	- -	V_{DD} AV_{DD}	Connected to B5V.
69 70	I I	- -	OSCI (5MHz) OSCO (5MHz)	Generates a 5MHz clock signal which is utilized as the main system clock signal in modes other than backup mode.
71	-	-	NC	
72 73	I 0	- -	OSCI (33kHz) OSCO (33kHz)	Generates a 32.768kHz clock signal for the timer during backup mode.
76 77	I I	A/D A/D	ENVEL.(AUDIO) ENVEL.(VIDEO)	Audio and video envelope level inputs auto tracking.
78 79	I I	A/D A/D	METER L METER R	Audio Level Meter input.
80	I	Hi	S-CURVE	Detects the ATF output applied from the IF unit to tune the station correctly.

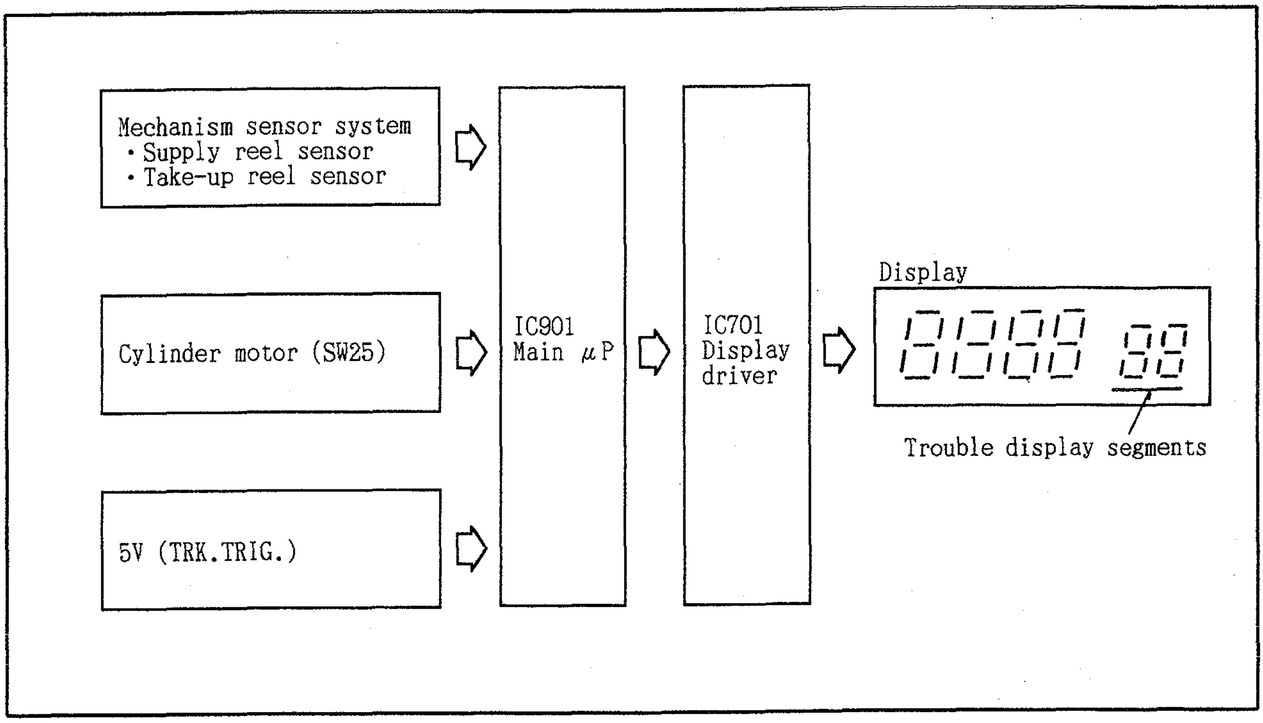
3. TROUBLE MODE

CHECK USING THE TROUBLE DISPLAY FUNCTION

This VTR has a function which displays trouble codes referring to the mechanism, etc. in the timer dispaly. Use this function to analyze causes that make the power shut off due to trouble in the mechanism, etc.
The main μP (IC901) detects the type of trouble from the mechanism control system and transfers digital data to the display driver (IC701) so the data is displayed in the channel indicator segments of the dipslay.
Fig. 1 shows how to detect trouble.

[Trouble display]

Trouble	Display (CH indicator)	Trouble	Display (CH indicator)
Abnormal rotation of cylinder motor		Abnormality in loading mechanism	
Abnormal rotation of capstan motor		Abnormality in front loading mechanism	
Abnormal rotation of reel disks			



Mechanism sensor system
• Supply reel sensor
• Take-up reel sensor
Cylinder motor (SW25)
5V (TRK.TRIG.)
IC901
Main μP
IC701
Display
driver
Display
Trouble display segments

Fig. 1 How to detect trouble

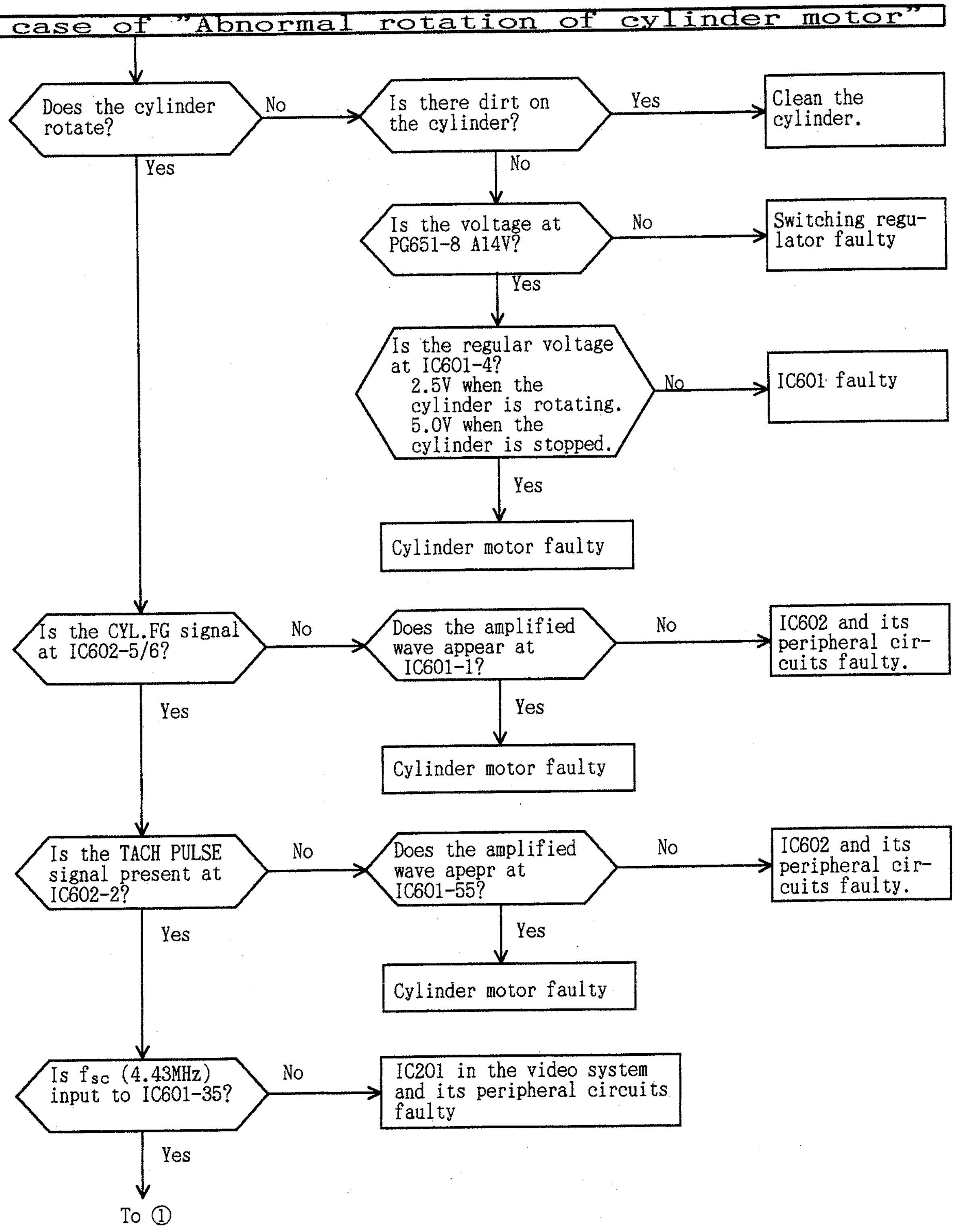
[How to display a trouble]
With the power off, press the CH ▼ button on the VTR and the tracking ▼/▲ buttons of the remote control simultaneously. The trouble information is displayed only when these buttons are held depressed.

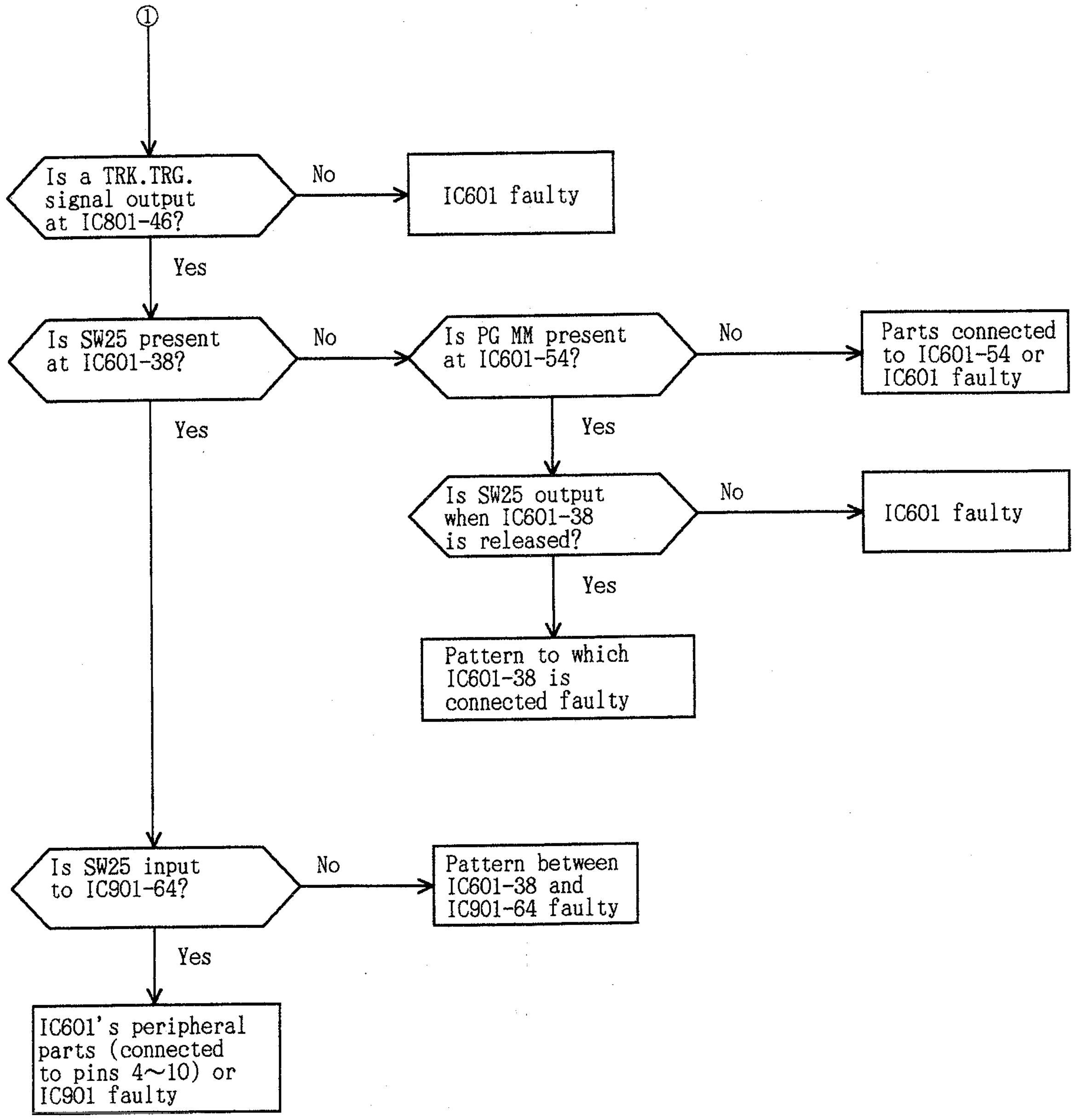
Caution:
Be careful; the trouble display will be cleared if the VTR power is turned on again or the power cord is unplugged.

TROUBLESHOOTING ACCORDING TO TROUBLE DISPLAYS

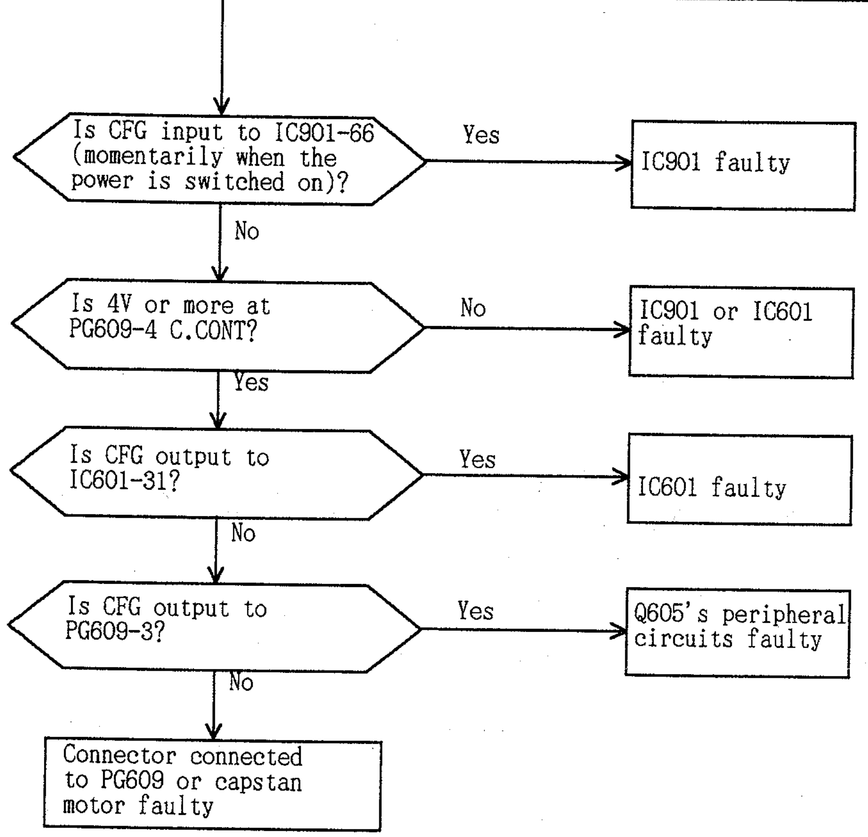
If the trouble display funciton locates a defective position, follow the flowcharts below to locate the trouble.

In case of "Abnormal rotation of cylinder motor"

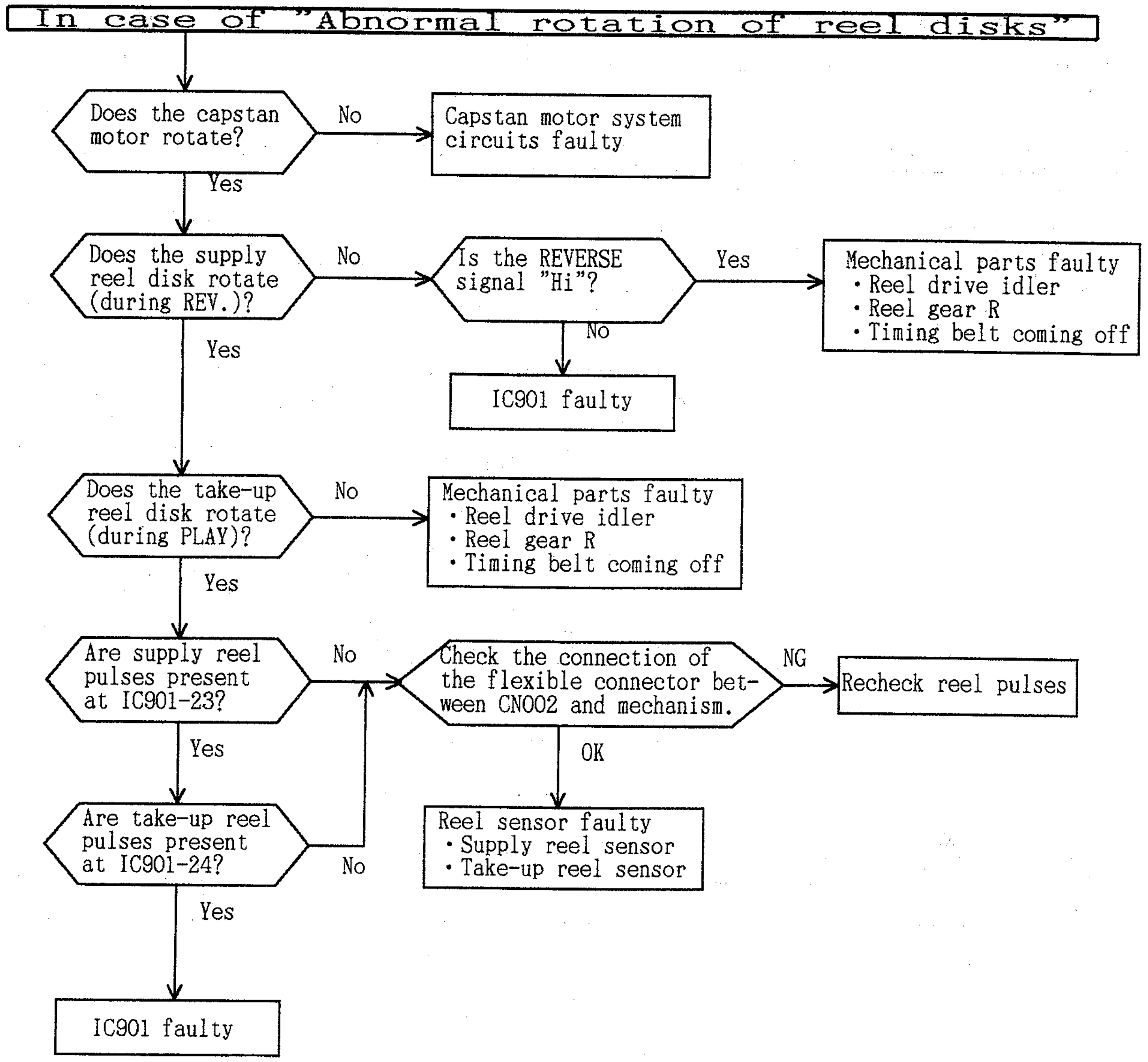

Does the cylinder rotate?
No
Is there dirt on the cylinder?
Yes
Clean the cylinder.
No
Is the voltage at PG651-8 A14V?
No
Switching regulator faulty
Yes
Is the regular voltage at IC601-4?
2.5V when the cylinder is rotating.
5.0V when the cylinder is stopped.
No
IC601 faulty
Yes
Cylinder motor faulty
Yes
Is the CYL.FG signal at IC602-5/6?
No
Does the amplified wave appear at IC601-1?
No
IC602 and its peripheral circuits faulty.
Yes
Cylinder motor faulty
Yes
Is the TACH PULSE signal present at IC602-2?
No
Does the amplified wave apepr at IC601-55?
No
IC602 and its peripheral circuits faulty.
Yes
Cylinder motor faulty
Yes
Is fsc (4.43MHz) input to IC601-35?
No
IC201 in the video system and its peripheral circuits faulty
Yes
To ①


①
Is a TRK.TRG. signal output at IC801-46?
No
IC601 faulty
Yes
Is SW25 present at IC601-38?
No
Is PG MM present at IC601-54?
No
Parts connected to IC601-54 or IC601 faulty
Yes
Is SW25 output when IC601-38 is released?
No
IC601 faulty
Yes
Pattern to which IC601-38 is connected faulty
Yes
Is SW25 input to IC901-64?
No
Pattern between IC601-38 and IC901-64 faulty
Yes
IC601's peripheral parts (connected to pins 4~10) or IC901 faulty

In case of "Abnormal rotation of capstan motor"

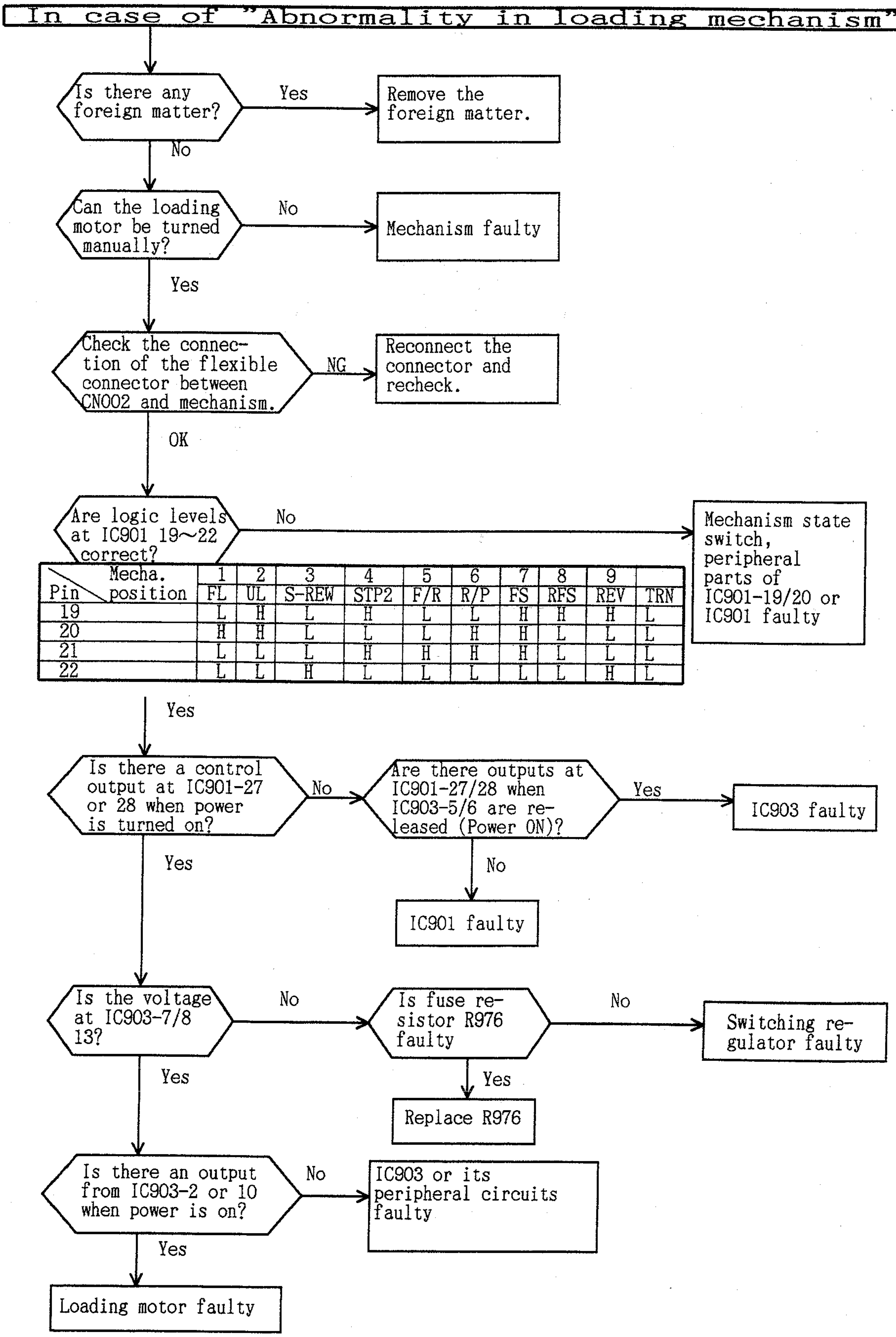

Is CFG input to IC901-66 (momentarily when the power is switched on)?
Yes
IC901 faulty
No
Is 4V or more at PG609-4 C.CONT?
No
IC901 or IC601 faulty
Yes
Is CFG output to IC601-31?
Yes
IC601 faulty
No
Is CFG output to PG609-3?
Yes
Q605's peripheral circuits faulty
No
Connector connected to PG609 or capstan motor faulty

In case of "Abnormal rotation of reel disks"


Does the capstan motor rotate?
No
Capstan motor system circuits faulty
Yes
Does the supply reel disk rotate (during REV.)?
No
Is the REVERSE signal "Hi"?
Yes
Mechanical parts faulty
• Reel drive idler
• Reel gear R
• Timing belt coming off
No
IC901 faulty
Yes
Does the take-up reel disk rotate (during PLAY)?
No
Mechanical parts faulty
• Reel drive idler
• Reel gear R
• Timing belt coming off
Yes
Are supply reel pulses present at IC901-23?
No
Check the connection of the flexible connector between CN002 and mechanism.
NG
Recheck reel pulses
OK
Reel sensor faulty
• Supply reel sensor
• Take-up reel sensor
Yes
Are take-up reel pulses present at IC901-24?
No
Yes
IC901 faulty

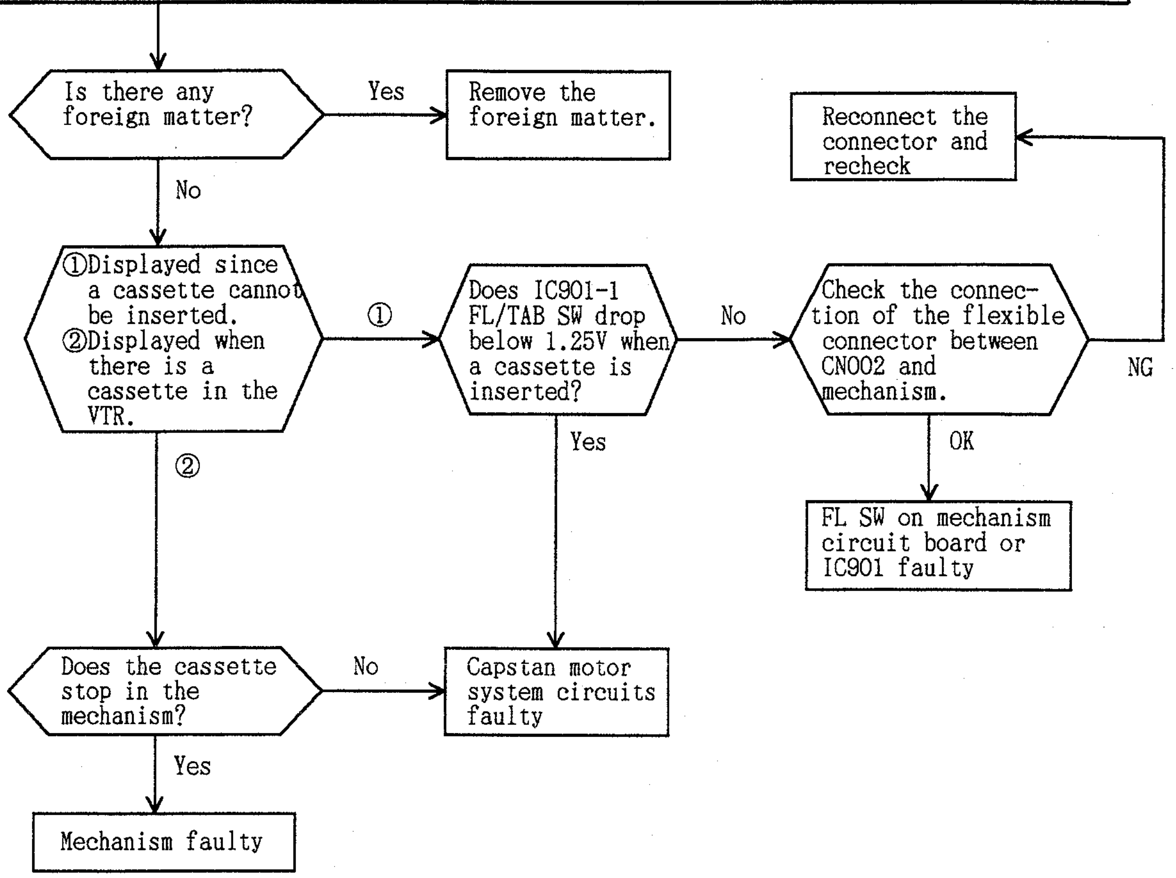
Caution: The cylinder system has priority. If the cylinder motor does not rotate normally, the capstan motor does not rotate.

In case of "Abnormality in loading mechanism"

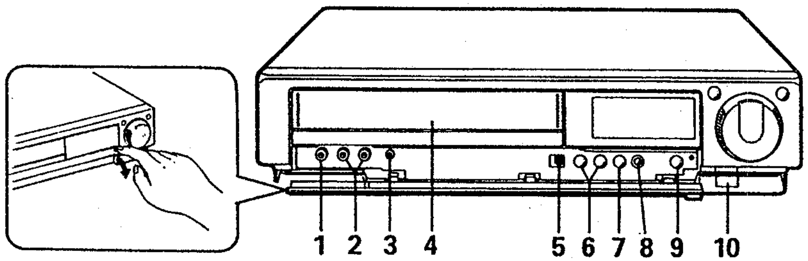

Is there any foreign matter?
Yes
Remove the foreign matter.
No
Can the loading motor be turned manually?
No
Mechanism faulty
Yes
Check the connection of the flexible connector between CN002 and mechanism.
NG
Reconnect the connector and recheck.
OK
Are logic levels at IC901 19~22 correct?
No
Mechanism state switch, peripheral parts of IC901-19/20 or IC901 faulty
Yes
Is there a control output at IC901-27 or 28 when power is turned on?
No
Are there outputs at IC901-27/28 when IC903-5/6 are released (Power ON)?
Yes
IC903 faulty
No
IC901 faulty
Yes
Is the voltage at IC903-7/8 13?
No
Is fuse resistor R976 faulty
No
Switching regulator faulty
Yes
Replace R976
Yes
Is there an output from IC903-2 or 10 when power is on?
No
IC903 or its peripheral circuits faulty
Yes
Loading motor faulty

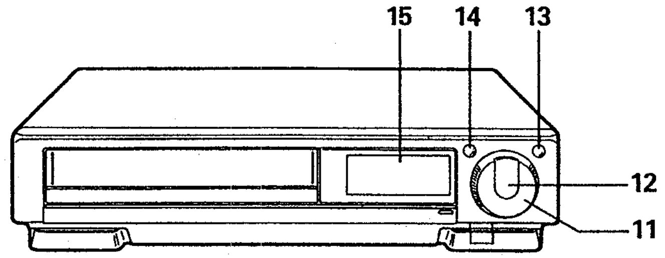
Pin \ Mecha. position	1 FL	2 UL	3 S-REW	4 STP2	5 F/R	6 R/P	7 FS	8 RFS	9 REV	TRN
19	L	H	L	H	L	L	H	H	H	L
20	H	H	L	L	L	H	H	L	L	L
21	L	L	L	H	H	H	H	L	L	L
22	L	L	H	L	L	L	L	L	H	L

In case of "Abnormality in front loading mechanism"


Is there any foreign matter?
Yes
Remove the foreign matter.
No
①Displayed since a cassette cannot be inserted.
②Displayed when there is a cassette in the VTR.
①
Does IC901-1 FL/TAB SW drop below 1.25V when a cassette is inserted?
No
Check the connection of the flexible connector between CN002 and mechanism.
NG
Reconnect the connector and recheck
OK
FL SW on mechanism circuit board or IC901 faulty
Yes
②
Does the cassette stop in the mechanism?
No
Capstan motor system circuits faulty
Yes
Mechanism faulty

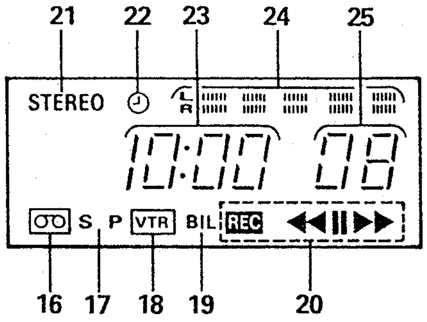
CONTROLS AND FUNCTIONS



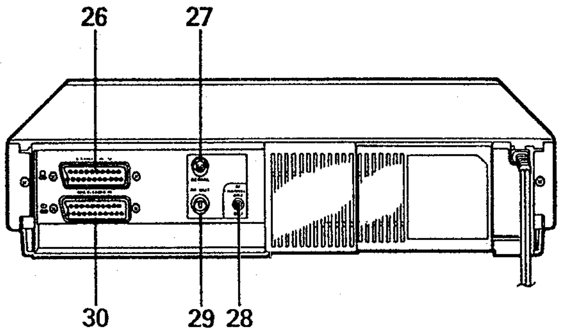


1. **VIDEO IN**
   Receives video signals from a camera, or another VTR.
2. **AUDIO IN (L), (R)**
   Receives audio signals from a camera, external audio equipment or from another VTR.
3. **EDIT IN socket**
   Connect the pause cable of a video camera here. Starting and stopping recording can be controlled by the start/stop button on the video camera.
   To synchro edit, connect this socket to the EDIT OUT socket on the other VTR.
4. **Cassette compartment**
   Insert a cassette through the door, and loading will be completed automatically.
   Note: Power is turned on automatically when a cassette is loaded.
5. **AI/NORMAL select switch**
   Switch this for playback picture adjustment.
6. **TV PROG (programme) buttons**
   Select the TV programmes you wish to view or record by pressing these buttons.
7. **HEAD CLEANING button**
   Press this button to manually clean the video heads when the dirt cannot be removed by auto head cleaning.
8. **REC/IRT button**
   Press the REC/IRT button once to start recording.
   Pressing again lets you select a recording time within 4 hours. After recording for the preset time, the VTR will automatically shut off. This is convenient when you go out during recording.
9. **PAUSE button**
   Press to pause during recording.
   Press to view a still picture during playback.
   Press again to release.
10. **Infrared ray receiving section**
    Receives infrared rays from the remote control unit.
11. **Shuttle ring**
    During play, turn this ring to speed up or slow down playback speed at a smooth variable rate for everything from slow motion to forward search. Removing the hand from the ring restores a normal play.
    During stop, turn this ring to fast forward or rewind the tape.
    See page 33 for details.
12. **PLAY/STILL button**
    Press in the stop mode to set the VTR to the playback mode.
    Press during play to set the VTR to the still play mode.
    Press again to restore normal play.
13. **Operate switch**
    Turn the system power on and off.
14. **■/▲ (stop/eject) button**
    If this button is pressed, while the VTR is operating, the running of tape stops and all operating modes are cancelled (except for timer recording). The cassette is ejected, when this button is pressed again in stop mode.
    Note: Power may be on or off when removing the cassette.
15. **Display panel**
    Clear, easy-to-read displays in this display panel includes many indicators that make operation easier. See page 8 for details.

CONTROLS AND FUNCTIONS



16. **Tape indicator**
    Lights when cassette is loaded in the compartment.
17. **Tape speed indicator**
    Shows tape speed during recording and playback.
    SP — Standard play
    LP — Long play
18. **VTR indicator**
    Will light when the VTR power is turned on or the VTR starts playback.
19. **BIL (bilingual) indicator**
    Will light when receiving a NICAM or A2 bilingual broadcast.
20. **Mode indicators**
    - " REC " appears during the record mode.
    - " ▶ " appears during the playback mode.
    - " ◀◀ " appears during the reverse play and rewind modes and flashes during the reverse double-speed play and the reverse visual search mode.
    - " ▶▶ " appears during the fast forward mode and flashes during the double-speed play and forward visual search modes.
    - " ❚❚ " appears during the play/record pause mode.
    - " ❚❚▶ " appears in the continuous frame advance mode and appears during the slow motion playback mode.
    - " ◀◀❚❚ " appears during reverse slow motion playback mode.
21. **STEREO indicator**
    Will light when receiving a NICAM or A2 stereo broadcast.
22. **Timer indicator**
    Will light while the VTR is in the stand-by mode for timer recording or in the IRT mode.
23. **Clock display**
    This displays the current time when the power is off.
    When power is turned on, you can switch the display between the clock, linear time counter and tape remaining time by pressing the COUNT/CLOCK button.
24. **AUDIO LEVEL indicators**
    Show the recording levels of each audio channel during recording and the recorded levels during playback.
25. **TV station number display**
    This shows the TV station number corresponding to the station selected.
    The "L1" or "L2" indicator appears when you select the AUX position by pressing the TRANS/AUX button on the remote control. "L1" position is used to record or watch the programme input at the EURO socket. "L2" position is used to record or watch the programme input at the VIDEO IN/AUDIO IN socket.



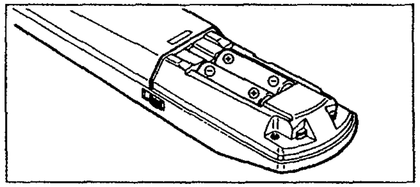
26. **EURO socket**
    For connection to a TV with a EURO or DIN socket using an exclusive cable. See your dealer for details.
27. **AERIAL input socket**
    Connect an external aerial.
28. **RF CHANNEL control**
    Used to adjust the video channel correctly.
29. **RF OUT socket**
    Connect to TV aerial input.
30. **DECODER socket**
    Connect to a "Pay Television" decoder.

REMOTE OPERATION

You can operate the VTR from a distance using the Infrared Remote Control unit which performs the same functions as the corresponding buttons on the VTR.

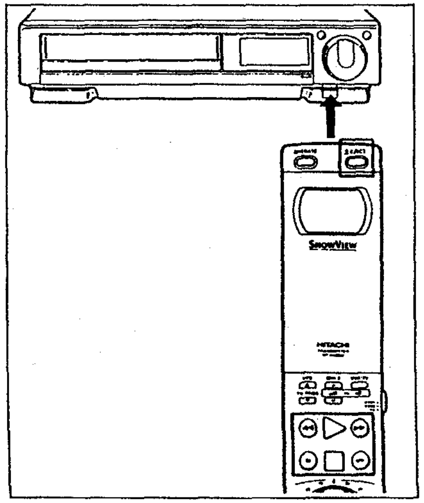
Power source of infrared remote control unit

The infrared remote control unit is powered by 2 batteries (size IEC standard R6). The life of the batteries is about a year although it depends on the number of times the unit is used. Replace the batteries when operation is not possible or when the distance becomes too small.



Remote operations

To operate the VTR with the remote control, set the VTR 1/VTR 2/TV switch on the remote control unit to the VTR 1 position, then point it at the receiver on the front of the VTR.



VTR 1/VTR 2/TV switch

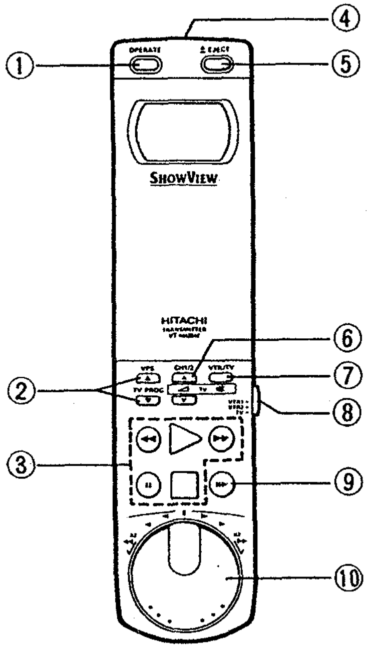
The remote control unit provided is designed to operate two VT-F260E units and 13 different types of TV.

- Refer to page 48 when using the remote control to operate the TV.
- Follow the procedure below when operating two VTRs.

For tape dubbing, as an example, recording VTR and playback VTR can be controlled by a single remote control unit. When controlling two VTRs, operate the other VTR as the VTR 1 and this VTR as the VTR 2. However, this VTR has been preset to be controlled as the VTR 1. Therefore, set this VTR so it can be controlled as the VTR 2 by following the "REMOTE CODE 1/2" section on page 35.

Even if the VTR1/VTR2/TV Switch is in the TV position, the shaded buttons can control your VTR.

Controls and functions



① **OPERATE:** Same as Operate on the VTR (turns operate on/off).

② **TV PROG:** Same as on the VTR.

③ ⏪ **Rewind button**
Press to start rewind.
Press this button during playback and the reverse playback picture can be viewed at high speed.

▷ **Play button**
Press to start play.
Note: When a cassette (with its erase prevention tab removed) is loaded, playback starts automatically.

⏩ **Fast forward button**
Press to start fast forward.
Press this button during playback and forward playback picture can be viewed at high speed.

⏸ **Pause button**
Press to pause during recording.
Press to view a still picture durng playback.
Press again to release.

□ **Stop button**
If this button is pressed while the VTR is operating, the tape stops running and all opetating modes are cancelled (except for timer recording).

④ **Transmission window:** Transmits commands to the VTR.

⑤ **EJECT:** Same as on the VTR.

⑥ **CH1/2:** Select the desired audio channel while playing a tape.

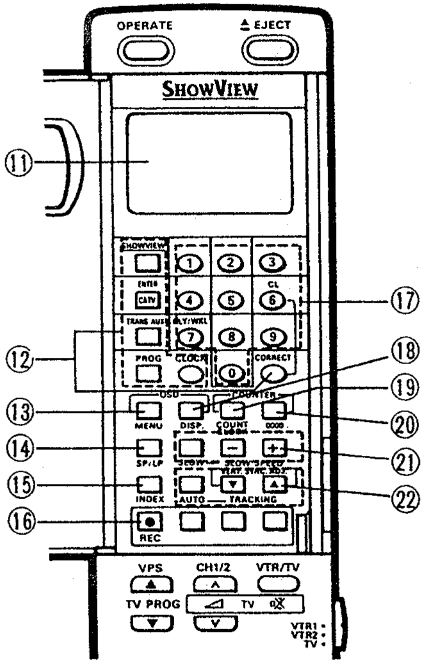
⑦ **VTR/TV select button:** Used to turn the VTR indicator in the VTR's display panel on and off.
The VTR indicator lights automatically when the VTR power is turn on or the VTR starts playback.
- This button is also used when the VTR is connecting a channel plus decoder (see pages 50 and 51 for details).

⑧ **VTR 1/VTR 2/TV**
- Set to TV to control the TV.
- Select VTR 1 or VTR 2 to control two VTR units.

⑨ **Frame advances button:** Advances the picture by one frame during still playback.

⑩ **Shuttle ring:** Same as on the VTR. See page 33 for details.

Controls and functions


OPERATE
EJECT
SHOWVIEW
⑪
⑫
⑬
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
PROG
CLOCK
CORRECT
MENU
DISP.
COUNT
0000
SP/LP
INDEX
AUTO
TRACKING
REC
VPS
CH1/2
VTR/TV
TV PROG
TV
VTR1
VTR2
TV

⑪ **Clock/timer display:** While setting the clock/timer, this display will prompt you through the procedure. After setting the clock, the display shows the clock time.

⑫ **Clock/timer programme buttons**
These buttons are used for setting the clock and programming the timer.
Note: The TRANS/AUX button is also used to select the L1 or L2 position when recording a signal from external equipment.
ENTER/CATV: This button is used to preset CATV stations into the VTR's channel scan list.

⑬ **MENU:** Press to review the timer programming, recall the VTR set-up menu, and select the language of the on-screen display, etc.

⑭ **SP/LP:** Press to select the tape speed for recording. The playback speed is automatically set to the speed used in recording.

⑮ **INDEX:** Used for INDEX function.

⑯ **REC:** Press this button to start recording.

⑰ **10-KEY button**
- Press two numbers to select a TV station.
- Also use for setting the clock and programming the timer.

⑱ **DISP.:** Calls up the mode display on TV screen for a few seconds.

⑲ **COUNT/CLOCK:** Press to switch the VTR display between the clock time display, tape remaining display and linear time counter display.

⑳ **0000:** Resets the linear time counter to "0:00:00" or calculates the tape remaining for an E240 cassette.

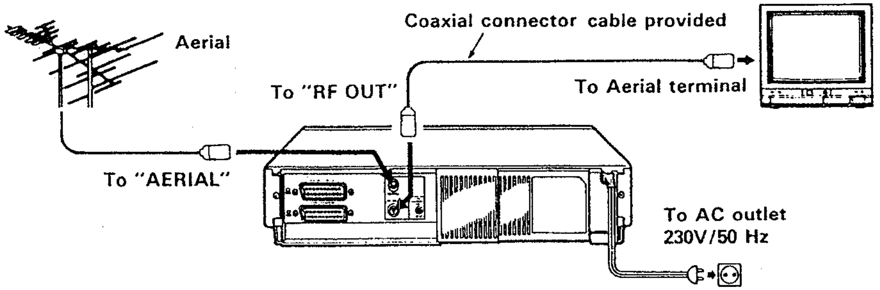
㉑ **SLOW/SLOW SPEED:** Used for slow-motion play.

㉒ **AUTO/TRACKING:** The VTR has an automatic tracking feature that will adjust the tracking whenever you insert a tape or press the Play button. The tracking can also be adjusted manually by pressing the TRACKING buttons (▼/▲). The automatic tracking feature is turned off whenever you press the TRACKING buttons (▼/▲).
Press the AUTO button to turn the automatic tracking feature back on after you have adjusted the tracking manually.

Note: The infrared rays will bounce off the walls and eventually reach the receiver on the VTR, but for best results transmit the rays directly to the receiver.

INSTALLATION

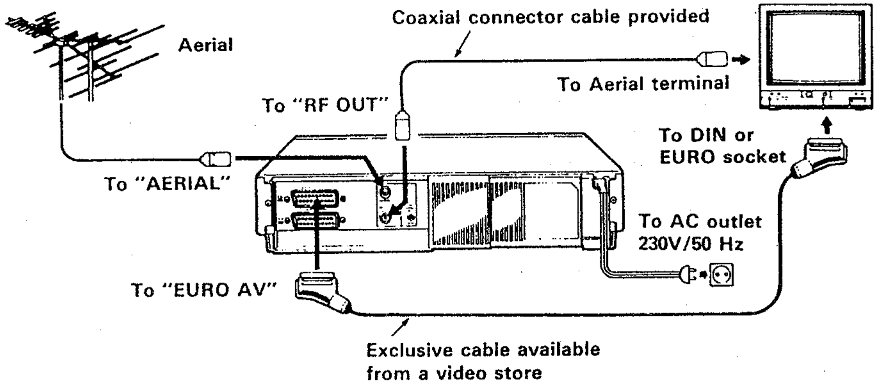
BASIC METHOD


Aerial
Coaxial connector cable provided
To "RF OUT"
To Aerial terminal
To "AERIAL"
To AC outlet
230V/50 Hz

Note: Stereo sound is available only when the VTR is played via the EURO socket.

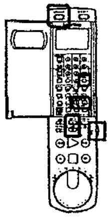
APPLICATION METHOD

If your TV set has a DIN or EURO socket, follow the connections below to record and playback much better pictures. You need an exclusive cable available from a video store when you make the following connections.
Note: Some TV sets are not equipped with a DIN or EURO socket. In such cases, you must connect by the BASIC METHOD.


Aerial
Coaxial connector cable provided
To Aerial terminal
To "RF OUT"
To DIN or EURO socket
To "AERIAL"
To AC outlet
230V/50 Hz
To "EURO AV"
Exclusive cable available from a video store

With this connection method:
- During playback, the signals from the EURO AV socket of the VTR are fed to your TV.
- You can record the programme selected by the programme select button of the TV set. In this case, press the TRANS/AUX button on the remote control so "L1" lights in the VTR display instead of a station number.

HOW TO OPERATE YOUR TV BY USING THE REMOTE CONTROL UNIT

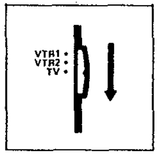


This remote control unit is designed to operate 13 different types of TVs, you must first programme the remote control unit to match the remote system in your TV.

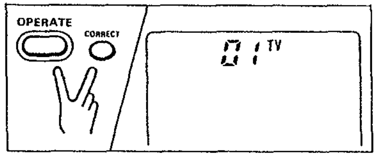
1 Install the batteries in the remote control unit.

2 Turn on your TV.

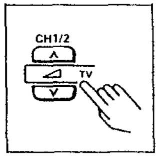
3 Set VTR 1/VTR 2/TV select switch to TV.



4 Press the OPERATE and CORRECT buttons at the same time. "01" and "TV" appear in the display.

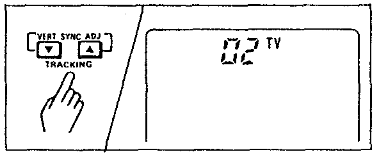


5 Point the remote control unit toward front of your TV, then press and hold down Volume (Λ or V) button.

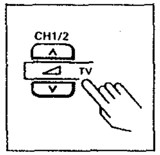


- If your TV changes volume, your TV can be controlled by this remote control unit. Press the CLOCK button to clear the "01 TV" in the display. The buttons on the remote control unit shown on next page will now control your TV.
- If your TV does not change volume, follow the next procedure.

6 Press the TRACKING (▲) button. "02 TV" appears in the display.



7 Point the remote control unit toward front of your TV, then press and hold down Volume (Λ or V) button.



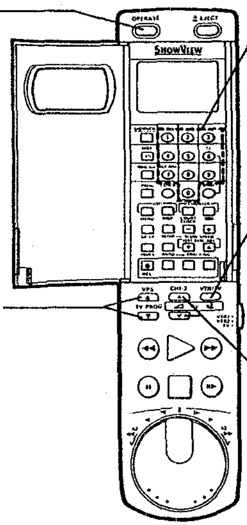
- If your TV does not still change volume, press the TRACKING (▲) button and try "03 TV", "04 TV" - - - - - - - "14 TV".

Note: The TV number is counted down one by one every time the TRACKING (▼) button is pressed.

8 If your TV does not respond to any of the above steps, the remote control unit can not operate your TV.

IMPORTANT NOTICE:
While Hitachi's remote control unit is compatible with most television sets, it is possible that the remote control unit will not work with your TV set.

Most buttons on the remote control unit will not control the TV unless the VTR 1/VTR 2/TV select switch is set to TV. If the switch is set to VTR 1 or VTR 2, you can not control your TV. Be sure to check that the VTR 1/VTR 2/TV select switch is set to TV when you control your TV.



OPERATE Button
- Press to turn on your TV.
- Press again to turn off your TV.

TV PROG ▲/▼ Buttons
- Press TV PROG (▲ or ▼) to change your TV channel.

Number Buttons 0 ~ 9
- Depending on the type of TV, these buttons can either control the TV or not.

🔇 (Mute) Button
- Press 🔇 button to quickly reduce sound to minimum level without affecting picture.
- To restore sound, press 🔇 button again.

Volume Λ/V Buttons
- Press Volume Λ to increase volume.
- Press Volume V to decrease volume.

Notes:
- Only the remote system of the Mute feature is different between remote transmission codes "02 TV" and "03 TV". When only the Mute feature is not operated properly by the remote control with "02 TV" ("03 TV") selected, set the transmission code to "03 TV" ("02 TV").
- With some TVs, TV channel 12 can be selected by pressing the MENU button and then number buttons 1 and 2.
- The remote control has a memory which enables it to operate some Hitachi TVs and, in the same way, some TVs from other manufacturers.

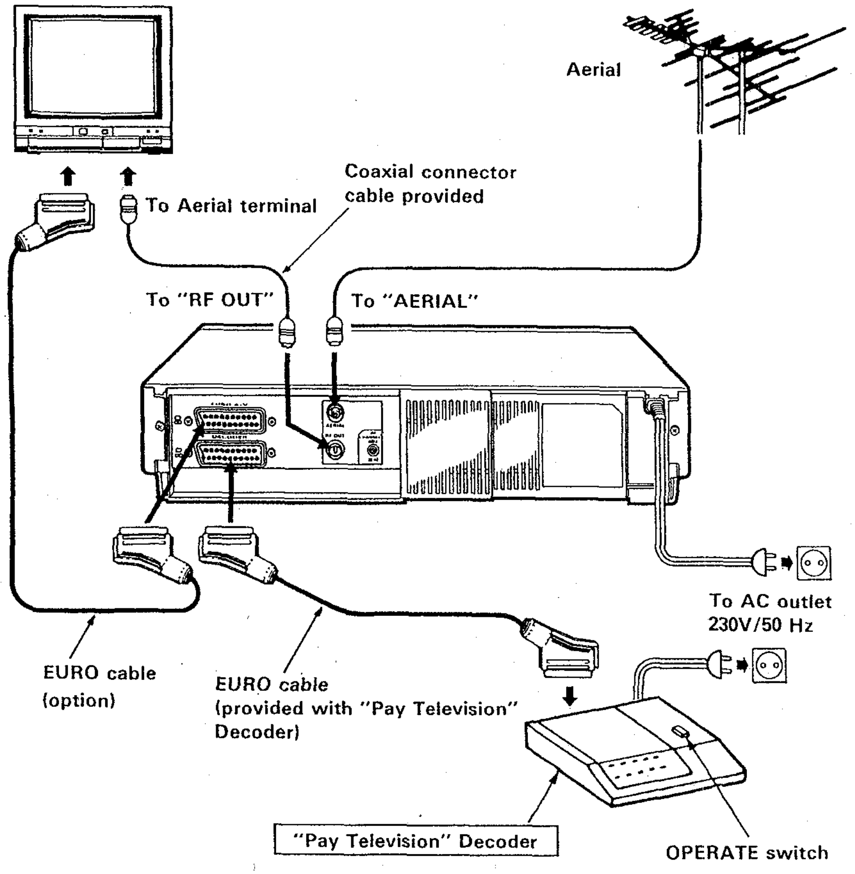
TV code	01	02	03	04	05	06	07	08	09	10	11	12	13	14
Coding system	NEC$53 PAL-53	NEC$50 UK-1	NEC$50 PAL-50	NEC$53 UK-2	SIEMENS	ITT	RC-5	Sony	Panasonic	—	Toshiba	Sharp	Mitsubishi	JVC
Type of TV	Hitachi TV	Hitachi TV	Hitachi TV	Hitachi TV	Hitachi, Finlux TV	Hitachi TV	Philips, Loewe TV	Sony TV	Panasonic TV	—	Toshiba TV	Sharp TV	Mitsubishi TV	JVC TV

- Column "Type of TV" shows the TVs as an example. Use this table as a reference when setting TV codes.

CONNECTION OF "PAY TELEVISION" DECODER

Connect the "Pay Television" decoder as follows.

What is a "Pay Television" Broadcast?
The radio waves are transmitted from the broadcasting station in the same way as with an ordinary TV broadcast in the "Pay Television" system, however, the radio waves are scrambled, therefore you cannot receive them or view the broadcast on the TV without unscrambling. You must connect an exclusive decoder to perform this unscrambling and then you can view the "Pay Television" broadcast like an ordinary TV broadcast.
Consult your dealer for details.



OPERATING THE VTR WHEN A "PAY TELEVISION" DECODER IS CONNECTED

Connect the TV, VTR and "Pay Television" decoder by the procedure shown on the previous page and then preset the "Pay Television" programme frequency into the VTR tuner.

1. Turn on the operate switches of the TV, VTR and decoder.
2. Perform step 1 in "Manual tuning" on page 16.
3. Press buttons "0" — "9" of the remote control to select the number of the "Pay Television" programme which you want to memorize in the station number, and then press the "8" button to VTR display " d " in front of the channel number.
   - Check the number of the "Pay Television" programme from the company that supplied the decoder.
4. Perform steps 3 — 6 on page 16 to memorize the number of the "Pay Television" programme in the station number.
   Now, the "Pay Television" programme frequency has been preset.

Note: Be sure to turn on the OPERATE switch of the decoder when viewing the "Pay Television" programme or recording (timer recording) it.

■ To record the "Pay Television" programme while viewing it

1. Turn on the power of the TV and VTR.
2. Check that the VTR indicator is lit.
   - If it is not lit, press the VTR/TV button of the remote control.
3. Set the TV to the channel for VTR (video channel).
4. Press the TV PROG button of the VTR to select the "Pay Television" programme.
5. Start recording.

■ To record a programme other than the "Pay Television" programme while viewing the "Pay Television" programme

1. Turn on the power of the TV and VTR.
2. Check that the VTR indicator goes off.
3. Press the TV PROG button of the TV to select the "Pay Television" programme.
4. Press the TV PROG button of the VTR to select the programme to be recorded.
5. Start recording.

■ To record the "Pay Television" programme while viewing a programme other than the channel plus

1. Turn on the power of the TV and VTR.
2. Press the TV PROG button of the VTR to select the "Pay Television" programme
3. Press the TV PROG button of the TV to select the programme to be viewed.
4. Start recording.

■ To record a programme other than the "Pay Television" programme while viewing it

1. Turn on the power of the TV and VTR.
2. Set the TV to the channel for VTR (video channel).
3. Press the TV PROG button of the VTR to select the programme to be recorded.
4. Start recording.

■ To use the TV with the VTR power turned off

Press the TV PROG button of the TV to select the programme to be viewed.

Note: Be sure to turn the decoder on also when you want to view the "Pay Television" programme.